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# USSR Report

AGRICULTURE

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14 May 1985

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MAJOR CROP PROGRESS AND WEATHER REPORTING

AGRICULTURAL RELATIONSHIP BETWEEN WINTER, SUMMER CONDITIONS

Moscow SOVETSKAYA ROSSIYA in Russian 2 Feb 85 p 4

Article: "Does Winter Provide a Forecast for Summer?"

Text: Nature at times plays tricks not only with the weather but with our impressions concerning weather. We certainly were convinced that we had endured severe frost conditions during January. Yet it now turns out that such conditions were not present in January.

In any case, the past month of January turned out to be warmer than usual in Moscow and the Moscow region. According to data supplied by the oldest meteorological observatory (at Timiryazevka) in our region, the average monthly air temperature was minus 9.9 degrees. The average indicators established over a period of many years for the center of Moscow -- 10 degrees of frost and for the oblast -- up to 11.5 degrees.

And yet the snow which fell in January was certainly reminiscent of older snowfalls. The height of the snow cover in the Moscow area at the present time is approximately 50 centimeters. Compared to a norm of 35-40 millimeters, more than 73 millimeters of precipitation fell during the month.

With the onset of February, winter conditions on the Russian plain have weakened somewhat and thaw conditions have set in in some areas. According to an old interpretation -- "Spring furnishes news." In ancient times, many peoples of Europe associated this news with the character of the future weather to be expected. But the chief long-term sign for spring and summer in all areas has been the basic month of winter. The ancient farmers feared most of all unusually moderate Januaries. This fear was expressed in a French proverb: "Protect yourself against a warm January."

In Russia, our calendar of national courage has collected many such signs. And all of them seem to show a preference for cold and snowy Januaries. It is said that "January cold fills the silos" and that "Snow on the ground is equivalent to farmyard manure."

Scientific meteorology does not reject the thought that "Winter determines the summer." But it believes that the regularities in its manifestation are extremely complicated and to a large degree have still not been defined. And yet the relationship between January and July can be traced more clearly. For

example, the meteorologists of Belorussia have established the fact that, during an overwhelming majority of years, a cold snap in January corresponds to a period of warm weather in July and conversely. Taking into account other regularities, analogies and signs, summer on the Russian plain can be expected to be moderately warm and damp. "A white winter -- a green summer."

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CSO: 1824/268

MAJOR CROP PROGRESS AND WEATHER REPORTING

EFFECTS OF FLOODING IN USSR ANTICIPATED

Moscow IZVESTIYA in Russian 14 Mar 85 p 6

[Interview by G. Alimov with Aleksey Pavlovich Zhidikov, deputy director of USSR Gidromettsentr [Hydrometeorology Center]: "What Will Spring Floods Be Like?"]

[Text] The first streams have begun to run along the ravines, the first drops...Ahead lies the great finale of the parting winter. Under the direction of spring, winter will salute us with the last of its "weapons"--floods. What will they be like? Our IZVESTIYA correspondent discusses this with the Deputy Director of USSR Gidromettsentr, Aleksey Pavlovich Zhidikov.

[Alimov] Aleksey Pavlovich, in the course of the winter period winter has gathered a great deal of strength, if we can put it that way. You are involved in specific figures--what do calculations show?

[Zhidikov] According to our data, in most of the European territory of the RSFSR water reserves in snow were greater by a factor of 1.5-2 than usual as of late February. The height of the snow in the Central, Central Chernozem and Volga-Vyatsk regions is mainly 50-60 centimeters, and in some parts of Ivanovo, Ryazan, Yaroslavl and Vladimir oblasts it reaches 70-80 centimeters. Such snow records are set only every 30-50 years. In the Asian territory of the RSFSR snow reserves are greater than normal in the river basins of the Tobol, the central Ob', the Yenisey, the Transbaykal, the Indigirka and the Kolyma. There is a great deal of snow in the Ukraine and in Moldavia.

[Alimov] Some of our readers fear that this kind of snow will result in unprecedented flooding. What do hydrometeorologists think?

[Zhidikov] A great deal of snow does not always mean a great deal of water. A great deal depends on the weather.

[Alimov] Please explain this.

[Zhidikov] If it is sunny during the day and if there is frost at night, the snow will gradually evaporate and will not result in great flooding.

[Alimov] But this is all from the realm of wishful thinking rather than what is probable. What kind of situation may develop from real weather conditions?

[Zhidikov] Of course, we must be prepared for any unexpected events. Existing hydrometeorological conditions have created the prerequisites for the development of extensive spring flooding near the rivers of Moscow, Vladimir, Ivanovo, Yaroslavl, Ryazan, Kaluga, Tula, Orlov, Kursk, Voronezh, Lipetsk, Belgorod and Rostov oblasts, for example. Maximal levels of spring high waters can exceed the norm by 1-2 meters on these rivers.

High waters on the rivers of Mari, the Mordovian and Chuvash ASSR's and Gorkiy, Kirov, Penza and Tambov oblasts may exceed the norm by 0.5-1 meters. The average levels of spring floods will be exceeded to the degree which we expected on the rivers of Tyumen, Omsk, Novosibirsk, Kemerovo, Irkutsk, Chita and Magadan oblasts, Krasnoyarsk Kray and Buryat and Yakutsk ASSR's.

High water on these rivers may be accompanied by overflows and possibly by flooding of the lower elevations of the cities of Ufa, Saransk, Orel, Kaluga, Tula, Kursk, Lipetsk, Vladimir, Ryazan', Gor'kiy, Kirov, Kurgan, Orenburg and other settlements.

[Alimov] Does this mean that we can expect very high waters on all rivers without exception in the aforementioned republics and oblasts?

[Zhidikov] No, of course not. For example, the high waters of the Upper Ob' and its tributaries as far as Omsk will be 0.5-1 meter lower than usual. Maximal high water marks on the Tom', Chulyma and other right-bank tributaries of the Ob' will be close to normal, but those for left-bank tributaries of the Central Ob' will exceed the average by 0.5-1 meter, as I have already said. On the Yenisey and its upper and lower tributaries high water marks are also expected to be close to normal. The same is true for the Selenga, Barguzin and other rivers flowing into Lake Baykal.

[Alimov] Are there any rivers which will demonstrate the so-called "lowest threshold" for high water?

[Zhidikov] Probably that will be true of the rivers in Arkhangelsk and Vologda oblasts and Komi ASSR. Waters will also be low in the rivers of Karelia and Murmansk Oblast. The water levels for the Northern Dvina, Mezena and Pechora are 0.5-1 meter below the norm.

[Alimov] Which rivers will have the highest water levels?

[Zhidikov] The highest levels--2-3 meters above the average--are promised by the Tobol and Ishim rivers. This is why flooding is possible in the Kurgan, Southern Uralsk, Tselinograd and Kustanay. On the Ingul and Southern Bug waters will rise to 3 meters above normal. In general, spring high water levels are expected to be very high on most of the small and average rivers of the Ukraine and Moldavia. Norms will be exceeded by 1-2 meters. High water may give rise to extensive spillage and flooding of settlements near banks and of lower elevations of cities such as Kiev, Chernigov, Poltava and Khar'kov.

Spring water levels of the rivers in western Georgia--Rioni, Kodori, Kvirili and other small rivers--should be high. In this case we do not rule out flooding in the cities of Kutaisi, Poti, Samtredia, Zestafoni and Zugdidi.

[Alimov] Let us draw some conclusions, Aleksey Pavlovich. How do you interpret the general situation developing on the country's rivers?

[Zhidikov] Let us say the following. On the rivers of the RSFSR, the Ukraine, Moldavia, Kazakhstan, the Transcaucasus, the Baltic republics and Belorussia high water levels are expected to be 0.5-1 meter greater than normal. Operations subdivisions of Goskomgidromet [State Committee of Hydrometeorology] have warned party, soviet and economic organs about the expected extensive flooding and overflow of rivers. Local flood committees are being created now and all types of measures are being taken to avoid losses that may result from flooding. We will monitor the situation because it can change rapidly. Basically, rivers will begin to break up on schedule or 3-7 days behind schedule. We still have almost an entire month in reserve. During this time a lot of water will flow under the bridge, as they say.

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CSO: 1824/305



MAJOR CROP PROGRESS AND WEATHER REPORTING

MEASURES FOR COUNTERING FLOOD CONDITIONS IN BELORUSSIAN SSR

Minsk SEL'SKAYA GAZETA in Russian 16 Mar 85 p 3

/Article by V. Zubets, professor and worker at Belorussian Scientific Research Institute of Land Reclamation and Water Resources: "Flood Conditions -- An Important Period"/

/Text/ A land reclamation system fulfills its purpose when all of its elements are in proper working order. It is the primary task of the operations personnel to ensure that the system is maintained in good working condition. Spring is the most complicated and tense period for these personnel. One of the chief tasks during the pre-spring period is that of preparing the systems for the accident-free handling of the ice flow and flood conditions. Under high water conditions, the water intakes and mainline canals operate when the channel is full, with a backwater being created in the network. This at times delays the timely withdrawal of surplus water from the reclaimed lands and the schedules for preparing the soil for spring sowing are disrupted.

This winter a thick layer of ice formed on the reservoirs, ponds, in the channels of water-intake rivers and in open canals. During the period of spring high water, ice obstructions can develop in the vicinity of installations and in the channels of canals, where they can demolish the installations. Thus the workers attached to administrations for the operation of drainage and irrigation systems are under an obligation to prepare all installations for handling the flood conditions in a timely and thorough manner.

Prior to the period of spring high water, the installations belonging to land reclamation systems should be examined and those structures and units which could be demolished or washed away during the course of a flood should be strengthened. Special attention should be given to examining the dams, dikes, water retention installations and the discharges of closed collectors and sectors, where it is possible for the water to overrun the banks of rivers. The cracks and pores detected in earth installations during an inspection are cleaned and then packed with dirt that has been mixed with farmyard manure or well decomposed peat. This method is employed for filling all of the depressions found at the junction points between hydraulic engineering installations on the one hand and dams and dikes and the walls of foundation areas on the other. Snow and debris must be removed from the openings of sluices, regulator pipes and transit pipes. All of the lifting mechanisms



should be tested and special attention should be given to removing snow and ice from the discharges of closed collectors and open canals, which are the water intakes for closed systems. Every attempt must be made to prevent the formation on them of ice bottlenecks and obstructions. Snow or ice outgrowths must also be removed from the slopes of canals.

Special attention must be given to those drainage-moistening systems having reservoirs and ponds intended for regulating flow. As is known, during the course of planning, the principal water level marks for the upper and lower reaches were established for each reservoir, pond and water area, the observance of which ensures accident-free handling of flood conditions. The filling of the reservoirs and ponds commences with the start of the flood conditions. This filling must be carried out slowly, roughly at the rate of 1 meter daily, with a pause of 1-2 days (in the case of considerable flooding) following each filling of a 1-meter layer. The filling of a reservoir to the mark for a normal level is carried out with the valves of the flood catchment area in a closed position. Subsequently both the reservoirs and the ponds will be filled to the normal levels and the excess water removed through the flood water discharge. Thereafter the draining of the water is regulated by the valves of the water discharge; the water level should not be allowed to fall below normal.

The water should be discharged gradually so as to prevent large waves from developing in the discharge and withdrawal installations and also along the lower reaches. The movement of waves of water or a sharp increase or drop in the water level can cause damage to the installations, to the delivery and withdrawal canals and to the river channels.

With regard to handling the ice, the water discharge must be sufficient for ensuring that the ice moves unhindered. In order to eliminate obstructions and also to prevent large ice floes from striking the installations, use can be made of the demolition method or other measures which will ensure the breaking up and rapid and accident-free removal of the ice.

For the best removal of slush ice from the upper reaches of a reservoir, high levels are maintained at the input portions of the canals or water discharge installations -- slower speed of flow is possible.

Each reservoir and pond must operate on the basis of a dispatcher schedule prepared earlier by the operations organizations.

Materials required for the carrying out of emergency operations must be placed in storage. A supply of such materials must be created in advance in those areas considered to be most dangerous from the standpoint of erosion or the destruction of parts of the system. In addition, bulldozers, tractors and other items of equipment must be placed in a state of readiness in the event the threat of spring flooding disappears.

An equally important measure is that of the timely withdrawal of surface waters, which accumulate in micro-depressions in the soil, and also the destruction of ice crust in sectors occupied by winter crop sowings or those intended for the sowing of spring crops.

Water can be removed from closed depressions by means of a system of temporary drill holes. Lightweight cam rollers or other mechanisms can be used for destroying ice crust on winter grain crop sowings.

Once the period of high water and flooding has ended, it will be necessary to restore all of the dismantled installations, inspect the land reclamation system, establish those areas where cleaning and repair work should be carried out and establish a calendar work plan for tending the system. During the inspection, special attention should be given to those tracts having weak or easily erodible soils and to strengthening the discharge sectors of canals and closed collectors.

A decisive condition for obtaining high yields from reclaimed lands, in addition to agrotechnical measures, is that of creating an optimum air-water, thermal and nutritional regime in the root-inhabiting layer of soil.

During the pre-spring period, as revealed by many years of experience, low ground water levels are established on reclaimed lands, mainly deeper than 1 meter from the soil's surface. Taking into account the fact that the soil of peat bogs this winter froze to a depth of 30-40 centimeters, this will promote a more rapid absorption by the soil of the spring supplies of moisture, especially on lightly used peat bogs in the forest district. Such a situation requires the carrying out of special observations on the status of the moisture supplies in the root inhabiting layer of soil. The operational administrations of drainage and drainage-moistening systems must, on an urgent basis, conduct observations on the surface water regimes on reclaimed lands, especially loose soils, lightly used peat bogs, underlying water permeable soils and also on sectors where the water level during the sowing period will be lower than 0.7-0.8 meters. Towards this end, it will be necessary to close the support installations on all of the canals.

It should be borne in mind that precipitation during the spring period can introduce considerable corrections into the moisture regime for a territory. When raising the water level to 0.5-0.6 meters from the surface, it will be necessary to carry out a partial withdrawal of water from the canals in order to establish it at a depth of 0.6-0.8 meters on lightly used peat bogs and loose soils and at 0.8-0.9 meters on long fallow peat bogs.

On loose soils, special attention must be given during the pre-sowing and sowing periods to the removal of water from low areas of the relief and from depressions in the soil.

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CSO: 1824/289

MAJOR CROP PROGRESS AND WEATHER REPORTING

AGRICULTURAL WORK CONTINUES DESPITE THREAT OF FLOOD CONDITIONS

Minsk SEL'SKAYA GAZETA in Russian 24 Mar 85 p 1

[Article by V. Tatun, Stolin: "Flood Conditions Commencing"]

[Text] The late spring has finally arrived in the republic's southern rayons. The Stolin grain growers are especially alert; they are prepared for any eventuality. This is particularly true in view of the fact that the Goryn' River is just commencing to overflow its banks. Demolition work is being carried out in those areas where ice obstructions are likely to develop.

The work concerned with combating possible flood conditions is thoroughly planned. The drainage ditches of roads are being cleared and tending of the land reclamation network has been organized. At the 40 Let Oktyabrya Kolkhoz, for example, dozens of river bed repair workers are spending entire days in the field. Iosif Mikhaylovich Strug is setting a fine example in carrying out his work. He carried out a thorough inspection of all of the regulator-pipes in his sector and cleared the openings of snow and ice. Nikolay Andreyevich Andrusevich, Stepan Andreyevich Yarmolich and other river bed repair workers are diligently performing their duties.

The grain growers are doing everything possible to ensure that all of their spring field work is started without delay and that it is carried out in a high quality manner, thus providing a strong foundation for the harvest of the final year of the five-year plan. As reported by the 1st secretary of the rayon party committee Aleksandr Iosifovich Bokach, the spring crops must be sown on 23,100 hectares as rapidly as possible; this is 9 percent more than last year. The areas to be used for pulse crops, sugar beets, corn and clover will be expanded considerably. Measures have been undertaken aimed at strengthening organizational and educational work among the workers engaged out on the fields. Everywhere, in the tractor and field crop husbandry brigades, temporary party groups and deputy posts for the local soviets, Komsomol Projector and people's control have been created for the period of the sowing campaign.

Measures for making preparations for carrying out the sowing work have been completed on farms throughout the rayon. The seed for spring grain and pulse crops has been improved to a high condition and sufficient quantities of high quality seed for potatoes, flax and perennial grasses are presently available.

In elevated areas that are free of snow cover and thaw waters, work has begun in connection with carrying out an undersowing of clover among winter crops and sparse alfalfa plantings. At this same 40 Let Oktyabrya Kolkhoz, an undersowing of clover has already been carried out on 50 hectares of sparse alfalfa, scheduled for use as green feed. This work is being carried out in a diligent manner by Grigoriy Nikolayevich Tsuber using an MTZ-50 machine ganged with an SZU-3.6.

Organic fertilizer is still being moved out onto the fields. At the present time, it is already known that 33-34 tons will be applied to each hectare of spring sowing throughout the rayon.

Reliable repairs have been carried out on the soil tilling and sowing machines on the farms and the coefficient of tractor readiness is high. The number of multiple-unit and wide-swath units has been increased and many tractor units have been staffed with machine operators for double shift operations.

Concern has been displayed for the workers in remote villages. There are 18 populated points in the rayon which, during flood conditions, are usually cut off from the rayon center for a certain period of time. Adequate quantities of food and industrial goods are supplied to these villages in advance. A reserve of spare parts for tractors and motor vehicles is available and the areas are supplied with the required amounts of gasoline and diesel fuel. A supply of forage was created in advance on the livestock farms.

While awaiting the arrival of flood conditions in the forest district, the Stolin farmers, despite the delayed spring, are countering the caprices of nature with a high level of organizational ability. They intend to carry out their sowing work on schedule and in a high quality manner and to consolidate and multiply their successes in making worthy preparations for the 40th anniversary of the great victory and for the 27th CPSU Congress.

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CSO: 1824/289

## MAJOR CROP PROGRESS AND WEATHER REPORTING

### COMBATING EFFECTS OF FLOODING IN DNEPROPETROVSK OBLAST

Moscow KOMSOMOL'SKAYA PRAVDA in Russian 26 Mar 85 p 4

/Article by L. Didanko, Dnepropetrovsk Oblast: "The Ordeal Came As No Surprise"/

/Text/ "Kolos, answer. I am Kolos 13. Report the situation."

"Kolos 13, I hear you. The water is coming from the left side of the Samara River. Measures have been undertaken. The demolitions personnel have destroyed the ice obstructions."

It is here, in the controller's office of the Kolkhoz imeni Kuybyshev in Novomoskovskiy Rayon, that the kolkhoz headquarters for combating flood conditions is located. Radio equipment is being used both day and night. It is providing communications with all of the kolkhoz's production sectors.

As a result of abundant snowfalls, the water level of the Samara River increased sharply and it overflowed its banks. Many homes were flooded and livestock farms isolated. However, the kolkhoz members did not falter. The headquarters, headed by the young kolkhoz chairman Nikolay Ivanovich Chuta, quickly evacuated the personnel to safe areas. Hot food and medical services were organized for them. The local school continued its operations with no interruption.

Those livestock farms on which a supply of feed was created in advance continued their operations. True courage was displayed by the komsomol members and the kolkhoz's youth. Drivers Viktor Pochtovik, Nikolay Skotnik and Grigoriy Rak, tractor operator Viktor Zaychenko and many others worked for 14-16 hours transporting people and materials.

Soldiers sent into the area provided the kolkhoz members with a great amount of assistance. Using amphibious vehicles and helicopters, they are providing transportation for farm and workshop workers and students and they are eliminating the ice obstructions. A more complicated situation has developed in the village of Spasskoye in this same rayon. Here, according to a report received from the deputy chairman of the rayon executive committee Pavel Mironovich Zinchenko, approximately 500 homes were flooded. The children were brought out first of all and thereafter the adults, with use being made for transportation purposes of powerful tractors, amphibious vehicles and local



water crossing equipment. The people were provided with temporary accommodations in a dormitory and the local population furnished shelter for a portion of the victims.

The soldiers are displaying special courage. In the region of the Chayka Young Pioneer Camp, along the Samara River, an ice obstruction 800 meters in length suddenly formed. The thickness of each ice-floe was 60-70 centimeters. Within an hour's time, a powerful avalanche of water would rush down upon the installations.

"Destroy the obstruction!" officers Kovalev and Tsentrovskiy ordered their subordinates.

Explosions shook the air. The problem was averted.

I held a discussion with the 1st secretary of the Novomoskovskiy Rayon komsomol committee Sergey Izyumchenko. He had just returned from the farms.

"Hundreds of young men and women have been mobilized for combating the flood conditions. The machine operators, builders and specialists at the kolkhozes imeni Michurin and imeni Kuybyshev, at the Orel'skaya Poultry Factory and at other farms are serving as fine examples of heroism. The youth have countered the elements with a maximum amount of endurance and organizational ability."

The following statement was made by the deputy chairman of the Dneprpetrovsk Oblast Executive Committee and the chairman of the Committee for Combating Flood Conditions Stanislav Vasil'yevich Droboshevskiy:

"In addition to Novomoskovskiy Rayon, the flood conditions have also caused a complicated situation to develop in Pavlogradskiy, Vasilkovskiy and Pokrovskiy rayons, where the Kil'chen', Samara, Orel' and Volch'ya rivers have overflowed their banks. The oblast's workers were notified in advance regarding the possibility of flood conditions developing and measures were undertaken: the dams were strengthened and pipes passed through them. The elements did not take the people by surprise. Recent data reveals that the water level has receded somewhat. Before long we will begin to eliminate the consequences of the flood conditions.

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CSO: 1824/318

MAJOR CROP PROGRESS AND WEATHER REPORTING

OCTOBER WEATHER CONDITIONS FOR VARIOUS AREAS DESCRIBED

Moscow SOVETSKAYA ROSSIYA in Russian 10 Oct 84 p 6

Article by Ye. Mishchenko, forecaster for the USSR Hydrometeorological Center:  
"The Rains Came"/

Text October weather is extremely changeable. Compared to the beginning of the month when there are many dry and fine days (referred to by the people as the October leaf-shedding period), the second half is characterized by gloomy and inclement days. A change in the weather usually occurs during the second half of the month. In olden times, they waited for this change at Pokrov. By this date they would have started heating their homes: "At Pokrov, it is autumn prior to dinner and after dinner -- winter," "At Pokrov, they heat their huts without firewood."

Commencing with the second half of the month there are fewer sunny days. More and more often the sky is filled with heavy low clouds, while a gusty wind and rainfall pull the last leaves from the trees.

The October rainfall is mixed with snow. In eastern Siberia, approximately one half of all of the precipitation falls in the form of snow. This produces some winter phenomena -- snowstorms and icy conditions. Snowstorms are noted most of all in the Urals (they occur from 8 to 20 days during the month depending upon the height and location of a slope). More often than not, icy conditions prevail on the Kola Peninsula, at Khibiny and in the Ural Mountains. The air temperature continues to drop steadily. Compared to the first 10-day period, it decreases by 2-3 degrees. According to data accumulated over a period of many years, the average daily air temperature in the northern regions of the European territory of the union assumes negative values towards the end of the 10-day period and in the central regions it amounts to 4-5 degrees. In the southern regions -- 8-10 degrees. The warmest day during the second 10-day period for Moscow was 13 October 1899, when the air warmed up to 20 degrees and 16 October 1882 was the coldest -- minus 14.6 degrees.

During the second 10-day period, the weather over a large portion of the European territory of the union is expected to be 2-3 degrees warmer than usual. In Murmansk Oblast and the Karelian ASSR, the weather is described as cloudy with rainfall and at times with wet snow. The air temperature during the daylight hours is plus 3-8 degrees. Rainfall occurs in Leningrad, Pskov, Novgorod and also Arkhangelsk oblasts, the air temperature during the day is



7-12 degrees and with a clearing up of the weather the air warms up to 12-14 degrees.

In the central and central chernozem regions, the character of the weather is unstable. Rainy days are replaced by dry ones, with the weather clearing up. The maximum air temperature ranges from 8-13 to 12-16 degrees. In Volgograd Oblast -- plus 6-8. Cooler weather than usual is expected during this 10-day period in Volgo-Vyatskiy Rayon and in the central and southern Urals. Precipitation will fall from time to time, mainly in the form of snow. In some regions there will be weak icy conditions and the daily air temperature -- zero to plus 5 degrees. Cold weather will continue in the Komi ASSR and in the northern Urals. During the day the air temperature will range from minus 1 to plus 4 degrees. It will also be cold in the regions of western Siberia and over a large portion of Kazakhstan. Precipitation will occur mainly in the form of snow. The maximum air temperature will range from minus 2 to plus 3 degrees. Weather considered to be warm for this time of year is expected in Povolzhskiy Rayon, with rain falling from time to time. The air temperature during the daytime hours -- 11-16 and in the south -- up to 20 degrees.

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MAJOR CROP PROGRESS AND WEATHER REPORTING

OCTOBER WEATHER CONDITIONS FOR VARIOUS AREAS DESCRIBED

Moscow SOVETSKAYA ROSSIYA in Russian 21 Oct 84 p 6

[Article by Ye. Mishchenko, forecaster for the USSR Hydrometeorological Center:  
"A Period of Contrasts"]

[Text] During October and November, just as in March and April, the diverse nature of the weather being experienced in the boundless expanses of our country is clearly manifested. In Central Asia and the Trans-Caucasus, it is warm and sunny just as in summer. Temperature fluctuations are still possible in the southern regions of western Siberia and a strong snow cover can still be found in the central and northern regions of Siberia and the Far East. The nighttime temperatures have reached minus 10 and in some areas even 20 degrees.

Genuine autumn conditions have arrived in the central zone of Russia. The shedding of leaves has been completed for the most part and only individual trees, of the cold-loving type, continue to please the eye with their bright beauty. The heralds of winter have already arrived -- bullfinches. The falling of snow is a common occurrence at this time. But the snow cover is only temporary in nature.

On the basis of climatic data accumulated over a period of many years, the average daily air temperature for these areas remains positive up until the end of the month (plus 1-2 degrees), the daytime and nighttime air temperatures are close to one another, especially during overcast weather, with the difference between them not exceeding 5-7 degrees. During rare and unusually warm years, the temperature towards the end of October can be considerably higher than usual. For example, the maximum temperature record for Moscow was recorded on 21 October 1896 -- 18 degrees of heat. In 1920, the third 10-day period in October was the coldest during the entire period of observations. On 31 October, the thermometer fell to 20.3 degrees of frost.

According to forecasting data, damp and cool weather is expected during the third 10-day period in October in Murmansk and Arkhangelsk oblasts and also in the Karelian ASSR. The maximum temperature -- plus 3 to minus 2 degrees, with wet snow from time to time. Overcast weather with rainfall predominates in Leningrad, Pskov, Novgorod oblasts and also in the central and central-chernozem regions.

It will be somewhat cooler in Volgo-Vyatskiy Rayon and in the central Urals -- 0 to plus 5 degrees, with rainfall mixed with wet snow from time to time. In

the Komi ASSR and in the northern Urals, at the beginning of the 10-day period -- plus 3 to minus 2 degrees, with the cold subsequently increasing to minus 4-8 degrees.

Precipitation will occur in various areas in the southern regions of western Siberia, with the maximum temperature being 0 to plus 5 and with a reduction taking place towards the end of the decade to minus 1-6 degrees. In the coastal regions there will be many dry and sunny days, with the air warming to plus 6-11 degrees.

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MAJOR CROP PROGRESS AND WEATHER REPORTING

IMPORTANCE OF SNOW IN MOSCOW OBLAST EMPHASIZED

Moscow SEL'SKAYA ZHIZN' in Russian 3 Mar 85 p 4

[Article by N. Petrov, agronomist, Moscow Oblast: "Snow, Snow..."]

[Text] This winter turned out to be both cold and snowy. If you please, the area of the snow cover will surpass the absolute records. March has arrived and the white landscape in our country remains practically unchanged throughout the entire territory: from the Baltic to the Far East and from Central Asia to the Arctic Ocean. The height of the snow cover in the Moscow region has reached 70 or more centimeters. And in Yaroslavl, Vladimir, Ryazan oblasts -- up to 80 centimeters.

In many other regions, the precipitation exceeded the usual norm to a considerable degree. Deep snow was experienced in the Urals and Volga regions. Fields in the Ukraine, the TsChO [central black earth region], the north Caucasus and Siberia were properly covered with a white coat. Snow covered the mountains and valleys of Armenia, Azerbaijan and Georgia. Extreme conditions developed in the Abkhaz ASSR; here the height of the snow cover was one and a half meters. Warm weather is on the threshold and still winter refuses to yield ground.

The people have mixed feelings regarding winter precipitation. For some it produces joy and for others -- anxiety and even disaster. The farmers are grateful for a good snow -- it is the forerunner of a good harvest. Yet the railroad workers, motor transport personnel and river workers are not so enthused. It is very difficult during this period to clear the roads of snow drifts and ice. The work must be carried out both day and night.

Nevertheless, snow is a white miracle. It plays a surprising and yet at times perplexing role both in nature and in the lives of people. A snow cover exerts a great influence on climate, water, soil, vegetation, the animal world and on the economy. It was more than 100 years ago that the remarkable Russian climatologist and geographer A.I. Voeykov focused attention on this fact for the very first time. "Nowhere" he wrote, "is the effect of a snow cover so great as it is in Russia, since nowhere are the plains so vast or so remote from the seas." The observation of snow cover at meteorological stations commenced based upon Voeykov's initiative.

Science has created a complete and all encompassing notion regarding snow and its interaction with other natural factors. It has been proven that clean and

dry snow reflects up to 95 percent of the solar radiation and thus it is many times stronger than vegetation or a water surface. Thus a snow surface and the air layer which hangs over it are well cooled. This cooling is so great in the polar regions that the snow and ice does not have a chance to melt during the summer.

Snow is invaluable for protecting soil against freezing. Low temperatures do not penetrate a thickness of snow to more than 30 centimeters. Here a stable temperature is created, one that is close to zero degrees. Some animals thrive very well under snow. Snow provides protection for winter grain crops, perennial grasses, the roots of trees and bushes, flower bulbs and berry plants. But there are also phenomena of an opposite nature. When snow remains for an extended period of time, the growing season for plants is shortened and a great amount of snow can cause plants to perish, especially winter crops.

A truly great spectacle occurs when the snow is melting. The spring flood water rushes rapidly to low areas. The water spills over from rivers, lakes and ponds and ground water supplies are replenished. A large amount of snow is a sign of a large amount of moisture and a good harvest. But man must control the thaw waters in an intelligent manner: create snow ridges in advance across slopes, place the water-collecting network in proper working order and employ measures for combating icy crust on winter crop sowings. The farmer knows that spring floods wash away soil and create ravines -- in short, they result in soil erosion. People fear snow avalanches, landslides and severe flooding conditions. This year, these phenomena may be especially dangerous.

However that may be, man and snow have always maintained a friendship. We take pleasure in a white snowfall and in the Russian winter, which turns cheeks red, prompts thoughts of skiing adventures and stimulates strength and cheerfulness. The cities of Snezhnogorsk in Krasnoyarsk Kray and Snezhnoye in Donetsk Oblast were named after snow. We are familiar with the proud snow leopard and the small snowbird. From military history the people remember such terms as "hot snow," "red snow" and the difficult snows of Moscow and Stalingrad.

And today a record snowfall is a loyal ally of ours for achieving a high yield. A popular saying holds that "Much snow means a large amount of grain." The sun rises in the spring, warm winds blow and a white wonder is transformed into life-giving moisture. This moisture is then fed to the ground -- our age-long bread-winner.

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## MAJOR CROP PROGRESS AND WEATHER REPORTING

### SEED, EQUIPMENT, PERSONNEL PREPARATION FOR 1985 SOWING OPERATIONS

Moscow KOMSOMOL'SKAYA PRAVDA in Russian 31 Mar 85 p 1

/Article by V.V. Khorshev, deputy chief of the Department of Seed Production for Grain Crops of USSR Sortsemprom; V.M. Saboda, deputy chief of the Main Administration for Personnel of USSR Ministry of Agriculture; A.A. Georgobiani, chief of the Administration for the Repair, Technical Servicing and Storage of Equipment of USSR Ministry of Agriculture: "Awakening of the Fields in the Spring"/

/Text/ The spring period for the final year of the five-year plan is at hand. The fate of the future harvest will be determined by the work carried out today: is there good seed in the bins, have the machine operators been trained and has the equipment been repaired in a high quality manner? Let us carry out a check on the readiness for spring sowing.

V.V. Khorshev -- deputy chief of the Department of Seed Production for Grain Crops of USSR Sortsemprom.

At the present time, 92 percent of our seed is quality-standardized. The farmers of Lithuania, Latvia, the Ukraine, Belorussia, Georgia, Azerbaijan and Armenia placed good seed in storage.

But there are also farms which have only poor quality seed in their bins. For the most part, this has occurred in those areas where the harvest work was carried out under unfavorable weather conditions -- eastern and northern parts of the country. In the near future, an exchange of seed from the state funds will take place here and reliable storage conditions will be ensured. With the onset of warm weather, importance is being attached to the hot air warming and chemical disinfection of the seed. At that time, a considerable increase will take place in the germinative capacity of the seed.

The cleaning of rice seed is being dragged out in the Uzbek SSR. In a number of oblasts, krais and autonomous republics, the agricultural organs and farm leaders and specialists are not making very strong attempts to raise their seed to 1st class quality. And indeed this is especially important in those areas where this year's plans call for spring wheat to be grown using the intensive technology.



As you can see, the country's farms as a whole are rather well supplied with seed. Today the problem is one of ensuring that it is used correctly and that steps are taken to raise the seed quality and class. Only a brief period of time remains. But in carrying out this work, the sluggishness of some leaders often proves to be an obstacle. The village komsomol committees must exercise control over the seed funds.

This present spring is a special one. We are sowing select seed on fields on which, for the very first time, grain will be grown using the intensive technology. In order to obtain programmed yields, we must have knowledgeable and intelligent masters of the land. Not simply a machine operator, but rather a machine operator-technologist.

V.M. Saboda -- deputy chief of the Main Administration for Personnel of the USSR Ministry of Agriculture.

Approximately 3 million agricultural machine operators, 63 percent of whom are 1st or 2d class specialists, are prepared to participate in the spring field operations. Naturally, their labor productivity will be high.

The machine operators improved their skills by means of winter courses of instruction. Such courses were organized on almost all of the farms and in the rayon centers. True, the quality of instruction is still not the same in all areas.

There were two reasons for the machine operators undertaking such courses: an increase in their wages for having improved their skills and the constant addition of new and complicated machines to the tractor pool.

Many crops are being grown over large areas using the industrial technology. This is now the fourth year for the mass introduction of this technology. The areas are increasing in size. And naturally, there is a greater demand for skilled personnel. In addition to knowing their machines to perfection, they must also possess good agronomic knowledge and be able to work in a collective. Indeed, these machine operators are assigned to brigade contract teams.

This year the intensive technology for cultivating grain crops must be mastered. And this cannot be done in the absence of instruction. In the Ukraine, the RSFSR and Kazakhstan, 106,000 machine operators have familiarized themselves with the characteristics of this technology and with its principal requirements.

And the most immediate requirement -- to observe in an efficient manner the optimum sowing periods.

For a young machine operator! Each day more knowledge is required of you. You must master to perfection the complicated machines and new technologies. The second part of success -- reliable equipment.

A.A. Georgobiani, chief of the Administration for the Repair, Technical Servicing and Storage of Equipment of the USSR Ministry of Agriculture.

Approximately 90 percent of the tractors and all of the soil-tilling and sowing machines have been prepared for the spring sowing operations. Repair operations are almost completed in Belorussia, Azerbaijan, Lithuania, Armenia, Kirghizia, Latvia and other republics.



A tense situation exists at the present time in connection with the preparation of the powerful K-700 tractors. The reasons? Not all of the farms commenced their equipment repair work in a timely manner. And thus today, with the sowing campaign almost at hand, there is still a great amount of work remaining to be carried out in the workshops.

But the chief misfortune -- the spare parts shortage. For example, in 1984 the production associations Odessapochvomash and Krasnyy Aksay and other enterprises did not fulfill their plans for the delivery of spare parts.

In the decree of the USSR Council of Ministers entitled "Additional Measures for Preparing for and Carrying Out Spring Field Operations in 1985," it is stated: to ensure the unconditional fulfillment of the established tasks for supplying agriculture with equipment, spare parts...

We are awaiting reports from the komsomol committees of enterprises of Minavtoprom /Ministry of the Automotive Industry/ and USSR Minsel'khomash /Ministry of Tractor and Agricultural Machine Building/: stating that they undertook the measures required for accelerating deliveries of spare parts to the repair workshops.

Each member of the Komsomol bears personal responsibility for the timely preparations for and the successful carrying out of the spring sowing campaign!

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## MAJOR CROP PROGRESS AND WEATHER REPORTING

### PROBLEMS, PROGRESS IN PREPARATION FOR 1985 SOWING CAMPAIGN

Moscow SOVETSKAYA ROSSIYA in Russian 20 Mar 85 p 1

/Article: "Spring for a Farmer"/

/Text/ For a farmer, each day of spring is filled with many concerns. Today, on the threshold of the sowing campaign, a great amount of work remains to be carried out -- preparation of the seed and equipment, adding fertilizer to the soil, supplying fuel for the machines and devoting thought to the detailed plans for field operations. And here it is important to remember that not one small "detail" can be overlooked, since when we speak of the harvest there can be no such small details.

Having unanimously approved the decisions handed down during the March (1985) Plenum of the CPSU Central Committee, the agricultural workers in the Russian Federation concentrated their efforts on improving the organization of labor and achieving more complete use of the production potential and accumulated experience.

Solutions must be found this year for a number of tasks, all of which require exceptional organization, a high degree of responsibility and strict observance of order and discipline. The problem is not simply one of a large volume of work to be carried out in the field. As mentioned recently during a meeting of the Politburo of the CPSU Central Committee, a requirement also exists for making thorough preparations for any and all caprices of the weather, achieving stability in farming, ensuring increases in the production of grain, feed and other products and introducing into operations the industrial technology for the cultivation of agricultural crops.

The experience of last year has shown that such high results can be achieved provided consistency is observed in the carrying out of a complex of operations and with each operation being performed in a conscientious manner. The machine operators at the Zarya Kommunizma Kolkhoz in Kursk Oblast obtained an unprecedented sugar beet yield -- 603 quintals from each hectare and the corn growers at the Rostov Severnyy Sovkhoz, even during unfavorable weather conditions, obtained 106 quintals of grain per hectare. Conversely, in those instances where a formal approach was employed in carrying out this important work, the required agrotechnical operations were not carried out completely and the results were lower. In Saratov Oblast, for example, less than 100 quintals

of sugar beets were obtained per hectare and in Orel Oblast -- only 83 quintals of potatoes per hectare.

Such lessons must not be forgotten. It is especially apparent at the present time who drew the proper conclusions and what measures are being employed. Indeed, only a brief period of time remains prior to the start of the spring field operations and in the southern rayons the sowing detachments and teams are already moving out onto the fields.

The machine operators in the Bashkir ASSR and Tula Oblast -- the initiators of a competition for the timely and high quality preparation of equipment -- are successfully coping with their obligations. The machines on farms in Moscow, Bryansk and other oblasts have also been prepared fully for the sowing work. Nothing has hindered them from being ranked on the same level with kolkhozes and sovkhoses in the western Siberian economic region. However, the lag that developed in the repair of machines has still not been eliminated here. The restoration of the powerful K-700 type tractors is proceeding slowly in Tyumen and Novosibirsk oblasts. In such instances, this lag is often explained in the same manner: a shortage of spare parts, with deliveries being carried out on an irregular basis. True, such a shortage does in fact exist. But a solution for a difficult situation can always be found in those areas where true concern is displayed for the work. A lag has also developed in Chelyabinsk Oblast in the repair of agricultural equipment, as reported by our newspaper. The oblast party committee exercised strict control over the carrying out of tasks, the economic organs undertook the necessary measures and thus improvements have been realized in the deliveries of spare parts for the machines. In addition, the oblast's industrial enterprises have produced some of the missing spare parts and the repair plants have restored worn out parts valued at several million rubles. The situation is being corrected.

The chief reason for the lag in the preparation of equipment -- weak labor organization at the repair enterprises and in the farm workshops, low quality repair work and disruptions in the schedules for the restoration of machines. Some rayon associations of Sel'khoztekhnika in Ivanov Oblast, especially the Vichuga Association, have been criticized in this regard. Workers attached to an inspectorate of Gossel'tekhnadzor, after having carried out a check on the quality of restored machines, revealed that one third of the tractors and motors and one half of the combines were repaired with violations taking place in the technical requirements.

Herein lies one reason why the kolkhozes and sovkhoses are shipping fewer machines to enterprises of Goskomsel'khoztekhnika for repair work, but rather are striving to carry out such work using their own resources. For example, of 3,994 tractors repaired prior to the beginning of March in Vladimir Oblast, more than 3,000 were restored in kolkhoz and sovkhos workshops. Of 8,000 restored in Kalinin Oblast, 6,000 were repaired by the farms using their own resources. This list could be continued. Indeed, in recent years considerable capabilities have been added to the Goskomsel'khoztekhnika system. Thus the entire problem is one of proper organization of the work.

The solution is prompted by the situation: the demand for high quality repair work must be raised. Such work must provide a firm guarantee of reliable machine operation during the spring sowing work. Correct action is being taken

in those areas where committees are being created for the purpose of accepting the machines following repair work, with the committees consisting of leading machine operators, communists and deputies of local soviets. This method has proved its worth. Special attention should be given to the readiness of the powerful K-700 tractors. Each spring a large number of them remain idle owing to breakdowns. And they are not always being utilized in an efficient manner. On some farms these powerful machines, immediately following repair work, are used for carrying out work of secondary importance, with no concern being displayed for preserving the service life of the machines for work out on the spring fields. Importance is also attached to devoting thought to improving the technical servicing of tractors and motor vehicles.

A guarantee for high yields -- good quality seed. The majority of the kolkhozes and sovkhoses have such seed at their disposal. But not all of the farms have sufficient seed for satisfying all of their requirements and much of their seed is of sub-standard quality. Prior to 1 March, one third of the seed for spring grain and pulse crops in Irkutsk and Kirov oblasts did not conform to the sowing conditions and in Perm Oblast -- one half. The cleaning and drying of the seed is being carried out in an extremely disorganized manner. The situation demands that all of the grain cleaning and seed cleaning stations at kolkhozes and sovkhoses be included in the work immediately and that more complete use be made of the drying and sorting system of enterprises of the RSFSR Ministry of Procurements.

In completing preparations for the spring sowing, one should be well aware that the task of increasing the gross yields of grain, technical crops and coarse and succulent feeds is dependent not so much upon agronomic solutions, but rather upon the readiness of the brigades and teams, the availability of machine operators, personnel training and upon labor organization. The scientists have developed efficient farming systems and they have recommended intensive technologies for the cultivation of various crops. But a chief concern is just how these systems and technologies will be employed. Each year the land reclamation specialists place large areas of irrigated and drained land in operation, land which is capable of furnishing high yields. But have preparations been made for the productive use of this land? It turns out now that the irrigation equipment is not always in proper working order. For example, large quantities of sprinkling equipment are still inoperable in the Kalmyk ASSR.

The collective contract has proved its worth. A number of kolkhozes and sovkhoses introduced this method into operations in a very formal manner. Machine operators in Voronezh Oblast wrote to the Editorial Board of SOVETSKAYA ROSSIYA and had this to say: "We are being converted to the collective contract. We would like to say directly that this is a fine move -- it is suitable for us and beneficial to the state. But only if the contract is introduced in keeping with all of the rules. Our Pobeda Kolkhoz is a strong farm. Its chairman is an outstanding leader who enjoys a great amount of respect. But it seems that he overlooked something. And it all has to do with the wages. We would state once again that we favor the contract method, but a true one, that is, with an agreement, the necessary material support, with the right of independently organizing one's work out on the fields, being responsible for the harvest and also with the right to participate in the



distribution of bonuses and additional payments for having achieved high results. It is our belief that the country needs such a contract."

Yes, precisely the above type of contract. Certainly, this fact is understood by the farm leaders. The only problem is that formalism has turned out to be stronger than their intentions. In such instances, active assistance is required on the part of the party organizations -- when the discussion turns to the basic position of leaders and specialists or the persistence of communists in the work of introducing innovations into operations. At the same time, they must intensify organizational and political work among workers attached to the agroindustrial complex and exercise strict control over the carrying out of measures aimed at establishing a reliable foundation for the future harvest. A firm and high principled approach in carrying out the work, with no idle talk, will also aid in creating an atmosphere of high responsibility and exactingness in all areas, waging a decisive campaign against manifestations of departmentalism and terminating the attempts by some leaders to blame operational shortcomings on poor weather conditions.

The CPSU Central Committee considers the organized carrying out of the spring sowing campaign to be a decisive condition for obtaining high yields during the year of the 27th congress of our party and for successfully implementing the Food Program. The farmers and all agricultural workers are under an obligation to be fully prepared for the spring and to carry out their field work during the best periods and in a high quality manner.

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MAJOR CROP PROGRESS AND WEATHER REPORTING

PROGRESS, PROBLEMS IN PREPARATION FOR 1985 SOWING OPERATIONS

Moscow SEL'SKAYA ZHIZN' in Russian 26 Feb 85 p 1

/Article: "Sowing Operations Soon At Hand"

/Text/ February has been both cold and snowy. But however strong the snowstorms rage, spring nevertheless appears to be applying pressure persistently to winter. Only a short amount of time remains prior to its arrival. Field operations have already commenced in Central Asia and before long they will begin in other regions of the country. The farms are making active preparations for this work.

Reliability in providing support for the spring sowing operations, as emphasized by Comrade K.U. Chernenko during a recent session of the Politburo of the CPSU Central Committee, is assuming special importance this year as the party, and the nation as a whole make preparations for the 27th CPSU Congress. Proper conclusions must be drawn from the lessons of last year, thorough preparations must be made for any caprices of the weather and increases must take place in the production of grain, feed and other products. The enterprises of industry, construction, transport and other branches of the economy must participate more actively in solving this task. The center of gravity for all organizational and political work should be transferred to the kolkhozes and sovkhozes and to those work collectives associated with the rural areas, efficient solutions must be found for the problems which are arising and everything possible must be done to ensure the rapid completion of equipment repair work, the preparation of seed, the accumulation of fuel, fertilizer and other resources and the training of specialists and machine operators.

This requirement of the party's central committee must serve as the foundation for the work being carried out by the appropriate ministries and departments, agroindustrial associations, party organizations and all communists in the rural areas. Importance is attached to undertaking exhaustive measures in all areas aimed at eliminating the shortcomings in preparing for spring and to completing all urgent tasks associated with the organized carrying out of the sowing campaign in a timely manner.

The approaching spring will be distinguished not only by the scales of the field work to be carried out but also by the extensive mastering of zonal systems of farming and progressive technologies and the use of other factors associated with production intensification. As a result of efforts on the part of the

party and state, a powerful economic potential has been created in the rural areas which is making it possible to increase steadily the gross yields of agricultural products and to satisfy the country's requirements for these products. Full use must be made of the reserves of kolkhozes, sovkhoses and the entire agroindustrial complex and the foundation must be established in the spring for achieving high yields and for carrying out the state plans not only for the current year but also for the five-year plan as a whole.

The key task -- increasing grain production to the maximum possible degree. The requirements for grain are constantly increasing and yet recently, in a number of oblasts and rayons, the yields have declined and fluctuations have been tolerated in the gross yields and in the grain procurement volumes. In the interest of raising production and improving the quality of the grain, winter wheat will be grown this year for the very first time on 6.4 million hectares using the intensive technology and spring wheat -- on 10.5 million hectares. Importance is attached to ensuring that all work out on the fields is carried out on a high agrotechnical level and that guaranteed yields of grain are obtained from each hectare.

The fate of the harvest is to a large degree dependent upon the status of the seed funds. Many kolkhozes and sovkhoses in the Ukraine, Belorussia and a number of oblasts in the Russian Federation have already prepared them for sowing and have improved the seed to a high sowing condition. At the same time, all is not going well with the seed in all areas. In Kirov and Chita oblasts and in the Udmurt ASSR, more than one third of the grain and pulse crop seed placed in storage is not meeting the requirements of the standard in terms of weediness, germinative capacity and moisture content. As yet, only an extremely small amount of 1st class seed has been prepared. The farm and RAPO /rayon agroindustrial association/ leaders and specialists must ensure that the seed funds are processed in a rapid manner and that the exchange operations are completed more rapidly; this will ensure that each kolkhoz and sovkhos has an ample supply of seed for all crops and for the entire spring crop sowing area.

During the period of time remaining before going out onto the fields, the soil cultivation, sowing and land reclamation equipment must be prepared for operations. Throughout the country as a whole, more than 86 percent of the tractors and 80 percent of the trucks have been prepared for work. However the repair of machines is lagging behind in Tajikistan, Turkmenia, in a number of oblasts in Kazakhstan and in Kurgan and Sverdlov oblasts. Delays occur in completing work on them at workshops as a result of shortages in spare parts and materials. Enterprises of USSR Minavtoprom /Ministry of the Automotive Industry/, USSR Minsel'khoz mash /Ministry of Tractor and Agricultural Machine Building/ and other ministries and departments have fallen behind considerably in supplying agriculture with such spare parts and materials. A requirement exists at the present time for ensuring that the repair enterprises of Goskomsel'khoz tekhnika and the farm workshops perform their duties at maximum capability and that the machines, equipment and fuel and lubricating materials are made available to agriculture on an urgent basis. The equipment must be turned over to skilled machine operators; this will ensure that a high level of productivity is achieved during the sowing operations.



Life has shown that stable yields of grain, sunflowers, potatoes, vegetables, cotton and forage crops are obtained in those areas where the fertility of the soil is being raised in a persistent and consistent manner. The Kolkhoz imeni Gastello in Minsk Oblast serves as a good example of this. Here each hectare of arable land is being supplied with 28 tons of organic material, mineral fertilizers are being employed in a skilful manner and, as a result, the grain yields are in excess of 50 quintals per hectare. This same procedure is being employed on many farms in Belorussia, the Kuban and in the Moscow area. Unfortunately, some kolkhozes and sovkhoses in Chelyabinsk, Penza, Rostov and other oblasts are not displaying proper concern for their land. Here only 3-4 tons of organic fertilizer have been applied per hectare of arable land in behalf of the future harvest. As much humus and compost as possible must be procured prior to spring arriving. Thereafter it must be moved out onto the fields and worked thoroughly into the soil. Together with the associations of Sel'khozkhimiya, the kolkhozes and sovkhoses must utilize each kilogram of mineral fertilizer so as to produce a maximum return. It must be applied to the drill rows during sowing and it must be given to the winter crops in the form of a top dressing and also during inter-row cultivations.

Great tasks have been assigned this year to those collectives which work on reclaimed lands. The area of their work now exceeds 34 million hectares. In carrying out the decisions handed down during the October (1984) Plenum of the CPSU Central Committee, the farmers must do everything possible to ensure that the irrigated fields in all areas become a stabilizing factor for production and furnish maximum quantities of products. Concern must be displayed first of all for improving the structure of the sowings, increasing the irrigated area for grain corn, soybeans and groat crops and for obtaining high yields of rice, cotton, vegetables, potatoes and alfalfa. The land reclamation installations, canals and equipment must be placed in a state of readiness more rapidly and concern must be displayed for retaining the thaw waters and for filling the ponds and water areas. This year the moisture resources are making it possible to irrigate a maximum amount of arable land and to obtain higher yields.

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MAJOR CROP PROGRESS AND WEATHER REPORTING

UKRAINIAN SUGAR BEET HARVESTING, PROCESSING REPORTED

Moscow PRAVDA in Russian 25 Sep 84 p 1

[Article by PRAVDA Correspondent I. Lakhno from Poltava, Sumi and Kharkov Oblasts: "From the Beet Fields"]

[Text] For the farmers of Poltava, Sumi and Kharkov Oblasts, a second harvest period has started, an even more labor-intensive and difficult one than grain harvesting. This is the sugar beet harvest. Its fields and farms in the three oblasts occupy over 400,000 hectares. In order to meet the year's quota, the equipment operators must dig and transport to the sugar refineries over 10 million tons of sweet roots.

Very recently the Poltava farmers were criticized for too early beet harvesting. But, looking at their experience and having checked the economic figures, the neighbors also have been begun to make adjustments in their schedules. Now by the beginning of September the sugar plants in the region have produced the first product from the new crop's raw materials.

The Poltava farmers in actuality and facts have proven that a certain advancing in the traditional harvesting dates is required by a number of economic and organizational considerations. First of all it is possible in better weather and, hence, with greater quality, to bring in the crop and the refineries process the basic amount of raw material "right off the truck."

The beet growers of Zhovten Kolkhoz in Lozovskiy Rayon have presently grown a good crop. They are confident that the year's quotas will be overfulfilled. At their disposal are five well repaired RKF-6 harvesting complexes and two complete shifts of equipment operators.

The Kolkhoz imeni Sverdlov has a thousand hectares of land under beets. There is a good crop in the team of V. Svetlichnyy. And the equipment operator himself is very pleased. For mastering progressive methods for growing the beets without any expenditure of manual labor and for high crops, Viktor Timofeyevich [Svetlichnyy] has been awarded the Order of Lenin. In the brigade of A. Panasenko, where V. Svetlichnyy works, a creative collective has been assembled. In order to remove the hoe once and for all from the field, the equipment operators have invented a number of interesting adaptations for the various units. Some of the first in Kharkov Oblast, they have taken up cost accounting and a contract order. The brigade leader has become a winner of the USSR State Prize.

Among the beet growers of the Ukraine there are many famous names. Their successes are known throughout the nation. Each oblast and rayon has its own pacesetters. The Kharkov farmers are trying to keep pace with the Heroes of Socialist Labor N. Gerbich, I. Tyagno and A. Solokha. In Sumi Oblast, scores of students of Hero of Socialist Labor N. Lavrik are working excellently and they have been schooled on his fields at the Komintern Kolkhoz in Nedrigaylovskiy Rayon. In Poltava, there are scores of "500's", that is, team members who each year raise over 500 quintals of beets per hectare. It is a pleasant fact that at present the pacesetters with "defended" glory have a number of worthy followers.

"We see the reason for this primarily in the well introduced collective contract," feels the Chairman of the Council of the Kharkov Oblast Agroindustrial Association V. Voznyy.

In meeting the equipment operators on the field during these autumn days, one is convinced how intelligently and conscientiously they are carrying out their job. For instance, while in Kharkov Oblast first place for crops had always been won by the beet growers in the northwestern rayons, now completing as equals are the equipment operators from Lozovskiy, Balakleyskiy and Bliznyukovskiy Rayons. In Poltava and Sumi Oblasts, they have also learned to grow good crops on those farms where beets until quite recently were considered a difficult crop. Suffice it to say that now not individual pacesetters but many farms obtain 50 quintals of white sugar per hectare.

The warm, sunny September has contributed to a steady pace for beet production. All the more unforgivable are the manifestations of laxness and negligence. The equipment operators of Barvenkovskiy Sovkhoz began digging without any loosening up and shake-downs. Seemingly its neighbors also did not anticipate any unpleasantnesses. On the eve of the harvest specialists from the Kolkhoz imeni Kotovskiy, Iskra Kolkhoz and Druzhba Kolkhoz reported cheerfully on the readiness to harvest the sweet roots. But when the day came to leave for the fields, it was discovered that many units were not in working order. It is a pity that the "hitch" was discovered by the harvest season and not by specialists from the Barvenkovskiy Rayon Agroindustrial Association. And the rayon Sel'khoztekhnika was much at fault.

And what rebuke is merited by the repairmen from the Pershotravnevaya and Gusarovskiy specialized shops of Sel'khoztekhnika where many beet harvesting machines from the farms of Volchanskiy, Krasnogradskiy and Novovodolazhskiy Rayons stood idle far longer than they should. Work on the fields in a number of rayons of Sumi and Poltava Oblasts has gotten underway in a disorganized manner, clearly counting on the long harvest season.

The flow of beets from the fields to the plants is increasing every day. The first thousand tons of white sugar have been dispatched to the trade network. But the equipment operators and the sugar producers still have very much to do to harvest and process the entire crop at the best time and without losses.

MAJOR CROP PROGRESS AND WEATHER REPORTING

SUGAR REFINING IN ODESSA PLANTS ANNOUNCED

Moscow SEL'SKAYA ZHIZN' in Russian 23 Sep 84 p 1

[Article by A. Soldatskiy: "Processing Has Commenced"]

[Text] Odessa. The sugar industry enterprises in the oblast are operating under the conditions of an economic experiment.

It is being successfully carried out and this year the collectives of the plants are counting on producing an additional 1.7 million rubles worth of product. The refining of the new crop of sugar beets has already started. The farms in Lyubashevskiy, Velikomikhaylovskiy, Ivanovskiy and other rayons are actively digging the roots.

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MAJOR CROP PROGRESS AND WEATHER REPORTING

MOLDAVIAN SEED PREPARATION PROBLEMS DISCUSSED

Moscow SEL'SKAYA ZHIZN' in Russian 10 Mar 85 p 1

[Article by N. Marfin, Moldavian SSR: "Special Concern for the Seed"]

[Text] The Kolkhoz imeni Michurin, a frequent winner of the all-union socialist competition, was recently once again awarded the Challenge Red Banner of the CPSU Central Committee, the USSR Council of Ministers, the AUCCTU and the Komsomol Central Committee. Here they are harvesting 50-60 quintals of wheat per hectare, 110-120 quintals of corn grain and more than 2,000 quintals of fodder beets per hectare. Seed production is organized well here as borne out by the work being carried out on the fields. Why is it that the skilful experience being accumulated here in the production of seed is not being made available to a majority of the farms in Slobodzenskiy Rayon and throughout Moldavia as a whole?

When neighbors visit the kolkhoz and ask the Michurin workers to discuss their experience, the latter usually manifest a strong concern for their seed. In the case of each field, an attempt is made to lay away the best seed for varieties which will make it possible to obtain the highest yields. The Pioneer 3978 and Moldavskiy 420 hybrids predominate on the kolkhoz's corn plantations and the principal tracts on the winter wheat fields are occupied by the Odesskaya 51, Pitikul and Obriy varieties.

Proper credit must be given to the Moldavian farmers -- recently they accomplished a great deal in the interest of placing the production of seed on an industrial basis.

Last year, for example, they produced 76,000 tons against a plan calling for only 60,000 tons. The specialized farms of just one zone of the Reutselskiy Plant procured 17,000 tons of this seed. Industrial incrustation, which raises considerably the protective properties of the seed against pests and fungus diseases, was organized for the very first time here.

An object of special pride for the Moldavian seed producers is the accelerated propagation of hybrid sunflower seed. Southern rayons specializing in the use of this method employed the industrial technology extensively and produced approximately 10,000 tons of this seed -- almost twice as much as the figure



for 1983. This year, hybrid seed grown on Moldavian farms will be planted throughout the country on more than one and a half million hectares, or approximately 40 percent of the area set aside for sunflowers.

Fine seed is available for all of the spring crops and with a supply held in reserve. Of the total amount of grain and pulse crop seed analyzed, 99 percent was declared to be of 1st or 2d class quality.

The system of active seed control introduced into operations last year (Moldavia was the first in the country to introduce it) promoted a considerable improvement in the quality of the seed. The essence of this innovation lies in the fact that workers attached to the state seed inspectorates, similar to the seed producers, participate directly in the growing and formation of full-value seed funds. A Gosseminspektsiya /State Seed Inspectorate/ specialist, together with a representative of the farm as authorized in a special decision handed down by the rayon executive committee of the Soviet of People's Deputies, selects specimens for analysis from the prepared seed fund. A second check is carried out on seed imported from other farms, rayons and republics. Thus an increase takes place in mutual responsibility for the reliability of the evaluations and, it follows, for the quality of the seed. It is by no means an accident, for example, that Vulkaneshtskiy, Drokiyevskiy, Yedinetskiy, Kantemirskiy, Kriulyanskiy, Novoanenskiy, Slobodzeyskiy, Chadyr-Lungskiy and other rayons today have all of the 1st class seed needed for their spring crops.

Nevertheless, even with good overall indicators, serious shortcomings and neglect in the carrying out of seed production operations are being observed in a number of areas. For example, there is a shortage of soybean seed throughout the republic.

In a recently developed special purpose program for the intensification of feed production, a special place is occupied in the crop rotation plans by such crops as peas, barley and alfalfa. The procurement plan for pea seed was surpassed and suddenly a report is received from Kamenka: the raygosseminspektsiya /rayon state seed inspectorate/ conducted three tests and on each occasion the farms had more than 3,000 quintals of sub-standard seed in terms of moisture content.

Moreover, the republic organizations are receiving many alarming phone calls concerning a shortage of barley seed. The farms are being forced into requesting permission for importing several thousand tons of seed for this crop from other regions of the country, varieties of the steppe ecotype which includes the new Odesskiy 100 variety.

Reports are being received from the state inspectorates concerning the low quality or absence of seed, for example, on farms in Kutuzovskiy, Nisporenskiy and Kaushanskiy rayons. Here we have in mind mainly sovkhoses of the Ministry of Viticulture and Wine-Making, where parasitical tendencies are very active. Each spring the leaders of a number of associations and sovkhos-plants rely upon the use of imported seed, they are carrying out their own seed production work in a poor manner and they are failing to create the logistical base required for this purpose.

In Kuguzovskiy Rayon, there are 18 sovkhos-plants attached to the Yaloveny NPO /scientific production association/. In late February I became interested in the quantity of grain forage crop seed they presented for analysis and also in the quality of this seed.

"As yet, no seed has been made available!" I was informed rather brusquely by the rayseminspektsiya, "Last year, seed plots were planted only on individual farms. No serious effort is underway at the sovkhos-plants aimed at developing seed production. They lack the means for cultivating seed; they do not even have sorting machines."

Nisporenskiy Rayon provides a very clear example of the lamentable consequences of a parasitical attitude. At one time, this rayon was praised for its fine organization of seed production operations. And yet today the rayon state inspectorate, commencing in the autumn, in all of its regular reports on the availability of spring crop seed at sovkhoses of the Ministry of Viticulture and Wine-Making, invariably states: "Seed is not available..."

Thus it comes as no surprise to learn that the workers in Nisporenskiy Rayon are not obtaining stable yields from their grain forage crops and that their dairy farms are occupying last place in the zone in terms of milk yields.

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MAJOR CROP PROGRESS AND WEATHER REPORTING

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TESTING OF NEW INTENSIVE CULTIVATION TECHNOLOGY IN TAMBOV OBLAST

Krasnodar SEL'SKIYE ZORI in Russian No 12, Dec 84 pp 3-4

/Article by N. Konovalov, director of the Tambov Oblast Agricultural Experimental Station: "Convincing Advantages"/

/Text/ An intensive technology for the cultivation of winter crops was tested on 2,000 hectares at 15 kolkhozes and sovkhoses in Tambov Oblast during 1984. Under complicated weather conditions, a hectare of land on these fields furnished 15-20 more quintals of grain than were obtained using the conventional agricultural method.

In behalf of the harvest for the final year of the five-year plan, the areas on which the new technology was employed were expanded to 150,000 hectares for clean fallow and up to 80,000 hectares for occupied fallow. The task was assigned of obtaining an average of 45-50 quintals of grain from clean fallow and 35-40 quintals from occupied fallow.

Scientifically sound farming systems are being introduced into operations on all farms in our oblast. In conformity with these systems, improvements are being introduced into the structure of the areas under crops and in the crop rotation plans and clean fallow has been placed in operation. Progressive and industrial technologies for the principal soil cultivation and for the cultivation of agricultural crops are being introduced successfully into operations, the use of intensive varieties is being expanded, the seed production system for grain crops is being improved and the schedules for the carrying out of field operations are being shortened. All of this has created definite conditions for increasing the gross yields being obtained from the grain fields.

The kolkhozes and sovkhoses are obtaining a worthy increase in their bread grain yields through the use of clean fallow. Last year a hectare of such fallow furnished 31.4 quintals of winter wheat -- almost twice as much as that obtained from occupied fallow.

However, we are still not utilizing fully the potential afforded by clean fallow for increasing the production of grain. We must obtain 50-60 or more

quintals of grain per hectare from the fallow fields; this will make it possible to harvest 300,000 additional tons of high quality grain.

The path to be followed for raising the winter crop yields -- introduction of an intensive technology. This technology is based upon the use of a complex of highly productive lodging-resistant varieties, ensuring normal acidity and a proper nutrient balance in the soil, applying raised dosages of nitrogen in combination with retardants and an integrated system for protecting plants against pests, diseases and weeds, including the use of highly effective fungicides and herbicides.

The new technology was tested this year on 2,000 hectares at 15 kolkhozes and sovkhozes throughout the oblast. Winter wheat was planted on 1,634 hectares following clean fallow and on 366 hectares following occupied fallow. For the purpose of developing a high yield, 40 tons of organic fertilizer and 415 kilograms of mineral fertilizer (in active agent) were applied in behalf of the principal soil cultivation. Elite seed and seed of the 1st reproduction of Mironovskaya-808 (3.5-4 million per hectare) were sown. Prior to sowing, the seed was disinfected and treated with the TUR preparation.

Snow retention work was carried out during the winter. In the spring the plantings were harrowed and given a surface top dressing of nitrogen fertilizer. Where necessary, they were treated with herbicides and baleyton against weeds and blight and during the shooting phase -- with the TUR preparation. A foliar application of nitrogen fertilizers ( $N_{30-40}$ ) was carried out during the grain forming phase.

During the autumn the plants bushed out very well at a majority of the kolkhozes and sovkhozes. However the number of productive stalks declined during the spring period owing to dry weather. Despite this fact however, the winter wheat yields from fields on which the intensive technology was employed were higher by 15-20 or more quintals than when the conventional technology was employed under the same conditions.

At the Komsomolets Sovkhoz in Tambovskiy Rayon, 43.8 quintals were obtained from an intensive hectare and at the Krasnoye Znamya Kolkhoz in Rasskazovskiy Rayon -- 29.5 quintals. Despite extremely dry conditions at the Zemlyanskiy Sovkhoz in Inzhavinskiy Rayon, the Kolkhoz imeni Kalinin in Zherdevskiy Rayon and at the Tsentral'noye OPKh /experimental model farm/ of our experimental station, an average of 25 quintals was obtained. Here the quality of the grain was high -- the gluten content was 28-32 percent.

In addition to winter wheat, the Chulpan variety of winter rye was grown on 75 hectares on fields of the experimental station. It was grown following occupied vetch-oats fallow. The soil was tilled to a depth of 10-12 centimeters. Mineral fertilizers were applied prior to the cultivation in conformity with the requirement for a grain yield of 50 quintals and with the nutrients available in the soil and accessible to the plants. Chulpan is an intensive short-stalk variety. It is characterized by a lower ratio of grain to straw than is the case with wheat and compared to wheat it consumes more soil moisture for the formation of grain. In addition, rye has a stronger root system than does wheat. Owing to the characteristics of the crop, the Chulpan



variety furnished 36 quintals per hectare when use was made of the intensive technology and when the conventional technology was employed -- 15-26 quintals.

In view of the convincing advantages of the new technology, the areas for the intensive cultivation of winter wheat in behalf of the oblast's 1985 harvest were expanded to 150,000 hectares following clean fallow and up to 80,000 hectares -- following occupied fallow.

The problems concerned with wheat cultivation using the intensive technology were examined at a council of the oblast's agroindustrial association and an agricultural administrative order was issued which defined the specific measures to be employed for introducing this technology. All of this work was approved by the oblast CPSU committee. A seminar was conducted at our experimental station for the leaders and chief agronomists of kolkhozes, sovkhoses and their subunits and for specialists attached to the agricultural organs. Special attention was given to the technology and schedules for working the clean fallow, to the storage and application of farmyard manure, to the working of occupied fallow and to the use of mineral fertilizers.

Forty four tons of organic fertilizer were applied per hectare to the intensive fallow fields, all-round agrochemical cultivation of fields was carried out on 35,000 hectares and liming work was conducted on 15,000 hectares of acid soil. In all areas, tracts of land were inspected for their nitrogen, phosphorus and potassium content and mineral fertilizers applied in accordance with the data obtained.

Compared to previous years when all three of these nutrient elements were applied in behalf of the winter crops, for this next year's harvest the fallow fields were supplied only with phosphorus and potassium prior to sowing. The hectare norm varied greatly and was determined taking into account the availability of these elements in the arable layer and their accessibility to the plants.

In the case of manured clean fallow, phosphorus and potassium as a rule produced far less than was obtained from tracts which were not provided with a top dressing of organic material. The application of nitrogen was postponed to the spring of the following year, since there was an ample amount of it in the soil for obtaining seedlings and for normal development of the winter crops. The plans called for this to be done using mainly the root method and during the winter wheat tillering and shooting period. The nitrogen dosage will depend upon its content in the dry substance of the plants. An optimum supply of nitrogen is believed to be in the soil when its content in the dry substance of wheat during the tillering phase is 5 percent and during the shooting phase -- 4 percent. A foliar top dressing should be applied to the sowings at a later time for the purpose of raising the quality of the grain.

When growing winter wheat based upon use of the intensive technology, the dosages of mineral fertilizer employed on occupied fallow were considerably higher than those for clean fallow. Here 120-140 kilograms of active phosphorus agent were provided per hectare, 80-90 kilograms of potassium and nitrogen -- on the order of 40-60 kilograms. The remaining and larger portion of nitrogen (it is expected that the norm will be raised to  $N_{130-150}$ ) will be applied



during the period of spring vegetation in the form of top dressings and this will undoubtedly raise its effectiveness and eliminate lodging of the plants during abundant amounts of precipitation.

More often than not, we lack sufficient moisture for obtaining high winter crop yields. Thus the intensive technology calls for maximum moisture accumulation and retention in the soil. Towards this end, the task was assigned this year of moving the farmyard manure out on to the fallow fields and plowing it under as early as possible. This work was completed for the most part in June and subsequently, prior to sowing, the surface tilling of clean fallow was carried out to a depth of 8-10 centimeters using cultivators. The modern cultivation of fallow fields and their maintenance in a weed-free state have made it possible to accumulate more than 200 millimeters of productive moisture in the 1-meter layer of soil.

The cultivation of occupied fallow was also directed towards accumulating a maximum amount of moisture in the soil prior to the sowing of the winter crops. This was especially important with regard to dry years, since the amount of precipitation that falls during the summer months is 80-100 millimeters less than usual. In this regard, the principal cultivation in the majority of instances was carried out on these fields using non-mouldboard implements to a depth of 10-12 centimeters. On many tracts, herbicides are employed for combating weeds instead of mechanical treatments.

Only 1st class seed and seed of high reproductions were sown on fields on which the intensive technology was employed. These fields were treated with fungicides and the TUR preparation 1 week prior to sowing. The herbicides prevent the sowings from becoming contaminated by smut diseases and the TUR preparation raises the resistance of the plants to lodging and also their winter-hardiness, as a result of deeper placement of the tillering node.

The winter crops were sown during the best periods: for occupied fallow from 20 to 25 August and for clean fallow -- from 1 to 5 September. As a result of adequate moisture, fine seedlings were obtained on a majority of the fields, with the technological tracks being clearly outlined on these fields. Precipitation fell over the oblast's entire territory in late September and thus there is reason to hope that the planned yield will be obtained next year. And it is sufficiently high.

The farmers in Tambov Oblast are actively responding to the decisions handed down during the October (1984) Plenum of the CPSU Central Committee and they have launched a campaign to obtain from each intensive hectare of winter crop 45-50 quintals of grain following clean fallow and 35-40 quintals of grain following occupied fallow.

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MAJOR CROP PROGRESS AND WEATHER REPORTING

BRIEFS

WATER SUPPLY IRRIGATION--Chimkent--The oblast's farmers have commenced water supply irrigation operations. They have directed a considerable portion of the flow from mountain rivers into their orchards and vineyards. The moisture accumulated in this manner, with a sharp rise in temperature, does not flow immediately over the frozen slopes but rather it passes slowly. The need for early foliar waterings disappears. /Text/ /Moscow TRUD in Russian 10 Feb 85 p 4/ 7026

SEVERE WINTER WEATHER--Guryev--A sharp reduction in temperature caused a natural calamity to occur in the Caspian region. Under the weight of the snow, tree limbs fell to the ground in orchards, telephone lines were disrupted, the movement of autobuses was paralyzed, the airport was closed and the roads leading to stores, schools and medical and children's institutes were covered over with snow. Exercises were cancelled in the junior classes of schools. Subscribers did not receive their local newspapers or mail. The elements were countered by a high level of organization and discipline. The transport enterprises responded to the alarm being sounded. Two mechanized columns were sent out to clear away the roads, specialized motor vehicles were pressed into operation and also bulldozers. The roads leading to industrial and food enterprises were cleared of snow. This was not an easy task. Sectors from which the snow had been removed immediately became covered once again with a dense layer of snow. Thousands of city-dwellers furnished assistance in clearing the streets. Bread and milk were delivered to the stores and on some routes the autobuses commenced operating once again. Life was returning to its usual working rhythm. /by N. Pototskiy/ /Text/ /Moscow TRUD in Russian 10 Feb 85 p 4/ 7026

SPRING CROP SEED PREPARATION--Ust'-Kamenogorsk--The farmers in East Kazakhstan Oblast have prepared fine seed for the spring sowing of their grain and pulse crops. A check carried out on this seed reveals that it is mainly of 1st or 2d class quality. /Text/ /Moscow TRUD in Russian 15 Feb 85 p 1/ 7026

JANUARY WEATHER DESCRIBED--In ancient Russia, January was believed to bring "increasing brightness": following gloomy and short days, the sky appears to become brighter, more spacious and more blue in appearance. By the end of the month, the length of the day increases by 1 hour. This present month of January was a good one from the standpoint of strong frosts and an abundance of snow. Almost the entire territory of the country, with the exception of a narrow coastal strip along the Black Sea shoreline in the Caucasus, the Apsheron

Peninsula and the southeastern shoreline of the Black Sea, was covered with snow. In many regions, the thickness of the cover reached one half meter or more. In Moscow Oblast, the deepest snow was in the southeast portion -- approximately 70 centimeters. Even in the republics of Central Asia, where the cold this winter was unprecedented, a snow cover formed. The student holidays commence during the last 10-day period in January. The weather is favorable in almost all areas for fresh air recreation and for participation in the winter types of sports. But the tourist centers in the Carpathians and in the Caucasus are most popular among the youth. The average air temperature in the Carpathians ranges from minus 2 to minus 5 degrees in the northeast. During December and January, up to 150-200 millimeters of precipitation falls. The Caucasus is quite properly considered to be an area of bright blue skies, warm sun and dazzling snow. The tourist centers at Prielbrusye Itkol, Azau, Terskol are quite well known. The average January temperature in this region at the present time is approximately minus 5 degrees. The average January air temperature in the Dombay clearing is minus 6.8 degrees. Precipitation during December and January -- up to 300 millimeters. A negative temperature anomaly is expected during the third 10-day period in January over a large portion of the European territory of the union and in western Siberia. The highest temperature -- up to 10 degrees -- a deviation from the norm is expected in the central and southern regions of western Siberia. It will range from minus 2 to minus 4 degrees in the European territory of the union and in the Urals. In the central and southern oblasts of western Siberia, the average 10-day air temperature will range from minus 29 to minus 34 degrees. In the northern Urals from minus 21 to minus 28. In the southern and central Urals, in the northern and Volga-Vyatsk regions and in the central Volga region--from minus 13 to minus 20 degrees. In the northwestern, central, central chernozem regions, in the lower Volga region and in the Ukraine--from minus 6 to minus 12 degrees. In the North Caucasus--from minus 1 to minus 5 degrees. [Department for 10-day Weather Forecasts of the USSR Hydrometeorological Center] [Text] [Moscow SOVETSKAYA ROSSIYA in Russian 22 Jan 85 p 4] 7026

TOP DRESSING APPLIED--Dzhambul, 27 Feb--The Leninskiy gosplemzavod /state breeding plant/ was one of the first in the oblast to apply a top dressing to its winter grain crops. This work is nearing completion on other farms in Lugovskiy Rayon. Mineral fertilizers are being applied with the aid of agricultural aviation and ground equipment. The grain growers are persistently striving to obtain high yields. A considerable portion of the winter fields has been sown using a regionalized drought-hardy winter wheat variety -- Bogarnaya-56. The grain crop sowings on irrigated arable land have been expanded. /by A. Iseyev/ /Text/ /Moscow SEL'SKAYA ZHIZN' in Russian 28 Feb 85 p 1/ 7026

RESCUE OF FLOCK--Kasymbek Shynarbekov, a shepherd at the Kumkent Sovkhoz in Chimkent Oblast, spent the entire day out on the pasture with his flock. Finally he maneuvered the sheep into the farmyard and went off to rest. Suddenly a strong wind developed and the window pane began to rattle. He thought that in all probability a snowstorm was about to commence. Throwing on a quilted jacket, he went out into the yard and -- he could not believe his eyes -- the flock was nowhere to be seen. A hurricane wind had dislodged a fence made out of saxaul allowing the sheep to run off. The shepherd mounted a horse and rode out into the steppe. He quickly found the flock and yet it was senseless to stop it -- in such a wind, the panic-stricken sheep were beyond

control. Upon encountering a small depression between two hills, the sheep slid down the white slope, stretched themselves out on the snow and huddled close together. Overcoming both his weariness and the cold, Kasymbek rolled balls of snow and placed them in a row so as to provide protection for the animals against the penetrating wind. In the morning, after the wind had abated, he conducted the flock over the deep snow to the wintering area. He saw an airplane which circled overhead. And soon thereafter, according to the newspaper KAZAKHSTANSKAYA PRAVDA, a search group came to the rescue. /Text/ /Moscow TRUD in Russian 1 Mar 85 p 4/ 7026

WINTER CROP TOP DRESSING--Dzhambul, 2 Mar--The farmers are striving, as rapidly as possible, to apply a nitrogen top dressing to their winter wheat sowings. A special team was created at the Merkenskiy Krasnyy Vostok Kolkhoz for this purpose. Each day, machine operators A. Borovoy, N. Averin and T. Kadyrov are overfulfilling the norm, despite the fact that they are working only during the morning hours when the ground is still touched by frost. Maximum productivity is being obtained from the equipment in Dzhambulskiy Rayon. Here the work of applying a top dressing to the sowings has already been completed. On farms throughout the oblast, this work has been carried out on more than one third of the winter crop fields. By the middle of March, nitrogen fertilizer must be applied to 389,000 hectares. /by V. Yelufimov/ /Text/ /Moscow SEL'SKAYA ZHIZN' in Russian 3 Mar 85 p 1/ 7026

AIDED BY AGRICULTURAL AVIATION--Alma-Ata--Farmers in the pre-desert zone, to the south of Kazakhstan, have completed the work of applying a top dressing to their winter crops -- an area of one half million hectares. They were aided by pilots of agricultural aviation in carrying out this work during the best periods and in a high quality manner. Each day, dozens of AN-2 aircraft take to the air. /Text/ /Moscow SEL'SKAYA ZHIZN' in Russian 16 Mar 85 p 1/ 7026

SNOW CONTROL WORK--Alma-Ata--Abundant snowfalls have dropped many tons of snow on the mountain roads in Zailiyskiy Alatau. Workers at snow measuring stations have requested assistance from demolitions experts. Accurately controlled charges broke up large masses of snow above a dam at Medeo and in other dangerous sectors. Thunderous "white explosions" were heard on the slopes and in the mountain spurs of the Altay range -- in East Kazakhstan Oblast. /by A. Demishev/ [Text] [Moscow TRUD in Russian 20 Mar 85 p 4] 7026

WINTER CROP SOWING COMMENCES--Uralsk, 18 Aug--The oblast's machine operators have commenced sowing their winter crops. Grain crops will be grown for the very first time on approximately 450,000 hectares of arable land -- almost one fourth more than last year. Many years of experience on the part of leading sovkhoses have made it possible for the RAPO /rayon agroindustrial association/ councils to develop a specific program for each farm for expanding its winter crop fields. In just a year's time, it will occupy no less than one half million hectares throughout the oblast -- twice as much as at the beginning of the five-year plan. /Text/ /Moscow SEL'SKAYA ZHIZN' in Russian 19 Aug 84 p 1/ 7026

WINTER GRAIN CROP EXPANSION--Semipalatinsk, 13 Sep--Winter grain crops are considered to be the most reliable grain crops on farms in Semipalatinsk Oblast. For example, each hectare occupied by winter grain crops in Taskeskenskiy Rayon furnished almost twice as much yield as that obtained from



spring grain crops. This is why the autumn sowing areas are being expanded on a majority of the farms. The Urdzharskiy Sovkhoz is setting aside 17,000 hectares for wheat. The winter crop sowings at the Aksuatskiy Sovkhoz have been expanded by a factor of four. A large portion of these sowings will follow clean fallow. [by V. Yelufimov] [Text] [Moscow TRUD in Russian 14 Sep 84 p 1] 7026

SNOW RETENTION WORK--Alma-Ata--Yesterday the machine operators on virgin land farms in Kazakhstan commenced their snow retention operations. This work will be carried out on the entire area of grain fields, which exceeds 15 million hectares. [Text/ [Moscow TRUD in Russian 20 Mar 84 p 1/ 7026

WINTER MOISTURE RETAINED--Kokchetav Oblast--During this current dry year, each hectare of grain crops at the Zlatopol'skiy Sovkhoz furnished 21 quintals of grain. Among the complex of measures employed here for obtaining stable and high yields, considerable importance is attached to snow retention work. This year, for example, the machine operators on the leading farm required only 10 days in order to complete, in one track, the ridging of drifts on the entire area for spring sowing and perennial grasses by the end of November. "Abundant snowfalls commenced very early this autumn" stated the sovkhov's chief agronomist V. Lyuft, "We immediately moved not only our powerful and maneuverable Kirovets machines out onto the fields but also a maximum number of caterpillar tractors equipped with plant and homemade snowplows. The work was carried out around the clock and it was completed on 14,000 hectares one and a half months earlier than usual. In the carrying out of this "white plowing" work, outstanding performances were turned in by tractor operators A. Malyshev, K. Musin, A. Gekk, A. Rayenok and Yu. Andrianov and his son Nikolay. The retention of winter moisture is now being carried out a second time out on the fields. [by G. Maslov/ [Text/ [Alma-Ata KAZAKHSTANSKAYA PRAVDA, in Russian 13 Dec 84 p 1/ 7026

SEED PREPARED FOR SOWING--Kokchetav--All of the oblast's grain crop seed -- approximately 400,000 tons -- has been prepared for sowing and has been classified as being of 1st or 2d class quality. A preference was shown for promising varieties of strong and durum wheats. [Text/ [Moscow TRUD in Russian 12 Jan 85 p 1/ 7026

PLOWING UNDER OF SNOW--Kokchetav--The farmers in Enbekshilderskiy Rayon have completed the ridging of white drifts on their entire area of arable land have commenced carrying out snow retention work a second time. The oblast's machine operators have already completed snow plowing work on three million of the four million hectares planned. [Text/ [Moscow TRUD in Russian 19 Jan 85 p 1/ 7026

PETROLEUM PRODUCTS PIPELINE--Makinsk (Tselinograd Oblast)--Strong frosts, considered unusual for the northern oblasts of Kazakhstan, have not lowered the rates of construction for the petroleum products pipeline Petropavlovsk - Kokchetav - Tselinograd. Yesterday, precisely in accordance with the schedule, the second phase of this mainline Kokchetav - Makinsk, a distance of 140 kilometers, was placed in operation. [Text/ [Moscow TRUD in Russian 20 Jan 85 p 1/ 7026

SEVERE COLD WEATHER--Alma-Ata--50 degrees below zero -- such was the temperature recently recorded in the settlement of Orlovskiy in East Kazakhstan Oblast. "Yes, Grandfather Frost surely is looking for a new record" stated the chief weather forecaster for the Hydrometeorological Center of the Kazakh SSR



G. Bondar', "but he still has not achieved it. The absolute minimum temperature was recorded in Tselinograd Oblast at Atbasar in 1893 -- 57.1 degrees." But winter this year has been very severe in Kazakhstan: a strong anti-cyclone prevented warm air masses from penetrating through to Alma-Ata. On more than one occasion the thermometer in the republic's capital approached 30 degrees of frost. And the record here was observed in 1929, at which time 36 degrees of frost was recorded in Alma-Ata. /by O. Kvyatkovskiy/ /Text/ /Moscow TRUD in Russian 3 Jan 85 p 4/ 7026

ANTELOPE PROTECTED--Karaganda--This year the residents of the city of Dzhambul observed a rare phenomenon. A small herd of steppe antelope -- saigas -- appeared along the edges of the city, in the streets, squares and orchards. This ancient and graceful animal usually shuns residential areas and people. But the unusually cold weather experienced throughout the entire republic and the abundant snowfall forced the animals to move to the extreme southern portion of the country and to seek protection from man. And the people are trying to help them. The Society for the Protection of Nature has imposed a very strict ban on the hunting of saigas during this winter period. The rural residents are supplying the animals with straw, which was prepared earlier for the domestic herd and the nature lovers and enthusiasts are establishing special "eating arrangements" for them. /by V. Ogyzbayev/ /Text/ /Moscow TRUD in Russian 9 Jan 85 p 4/ 7026

OVERCOMING FLOOD CONDITIONS--Ust-Kamenogorsk--Never before had this happened in the Rudnyy Altay Mountains: in a ringing frost, the Kal'dzhir River had overrun its banks. From a channel that was choked up with hummocks of ice, the water poured out onto farmland in Markakolskiy Rayon. In the flood zone there were 32 staging areas for the livestock breeders, 20,000 sheep and large numbers of cattle and horses. Workers at the Kal'dzhirskiy Sovkhoz were the first to launch a campaign against the elements. Once the alarm was sounded, they readied all of their equipment. A group of volunteers headed by workers Zh. Orazimanov, Ye. Kadylbekov, the brothers Aleksandr and Fedor Gladchenko directed the rapidly advancing water into safe areas. When it appeared that sufficient forces were not available for combating the elements, reinforcements from the rayon center transited the snow-covered mountain passes and broke through to the winter areas of the livestock breeders. Approximately 100 powerful bulldozers, scrapers, trench diggers, excavators and columns of heavy trucks were placed in operation. The movement of water ceased. Aided by a series of controlled explosions, the ice hummocks were broken up and the river returned to its channel. Courage and timely assistance proved to be the solution. At the present time, the livestock products from farms in the region are being delivered to the receiving points on a regular basis. The daily milk yields are at the former levels. At the fattening sites, the young bulls are increasing in weight at the rate of 650-700 grams daily. The overall mood -- to cope successfully with the wintering of the livestock and to complete the planned tasks ahead of schedule. /Text/ /Moscow SEL'SKAYA ZHIZN' in Russian 13 Jan 85 p 4/ 7026

**WINTER THUNDERSTORM**--On 6 January 1985, during the middle of the day, a loud clap of thunder was suddenly heard in the western and northern regions of Moscow during a strong snowfall and snow storm. We have been informed by the USSR Hydrometeorological Center that this is a rather rare phenomenon for winter. But over the past 3 years, thunderstorms have occurred in Moscow during each January. Their occurrence at this time of year is associated with warm air rising during the passing of atmospheric fronts. At the present time, such a front was associated with a rapidly shifting southern cyclone. A distinctive feature of this thunderstorm was a low, compared to other winter thunderstorms, air temperature at the ground level: minus 11-12 degrees, compared to usual winter thunderstorms during which temperatures to 2 degrees of frost are observed. It is interesting to note that winter thunderstorms occur most frequently in the northwestern part of the capital, in the region of the VDNKh. /Exhibition of Achievements of the National Economy of the USSR/ /Text/ /Moscow SEL'SKAYA ZHIZN' in Russian 8 Jan 85 p 4/ 7026

**INTENSIVE TECHNOLOGY EMPLOYED**--Belgorod, 31 Aug (TASS)--The machine operators in Belgorod Oblast have commenced sowing winter crops on the second half of their areas. This year, those non-schedule teams responsible for the cultivation of grain and row crops are utilizing the intensive technology extensively for carrying out their sowing work; this technology guarantees stable yields during all types of weather conditions. The precipitation which fell in all areas created favorable conditions for sowing the winter crops. The seed for highly productive varieties of winter rye, seed which holds great promise for the chernozem zone, is being carefully planted in the damp earth. The leaders in this work are the farmers in Veydelevskiy Rayon; they have already sown almost half of their winter crop fields. /Text/ /Moscow SEL'SKAYA ZHIZN' in Russian 1 Sep 84 p 1/ 7026

**WINTER CROP SOWING COMPLETED**--Belgorod (TASS)--The farmers in Belgorod Oblast have laid the foundation for next year's harvest. Yesterday they completed sowing their winter crops, which have been planted on an area in excess of 430,000 hectares. The sowings were carried out during the best agrotechnical periods. This year, in carrying out their sowing work, the agricultural workers made extensive use of the intensive technology, which ensures stable yields. The seed of the best regionalized varieties was placed in the soil together with a simultaneous application of fertilizer. /Text/ /Moscow SOVETSKAYA ROSSIYA in Russian 9 Sep 84 p 1/ 7026

**A WINTER STORM**--Kursk-Belgorod--Several rayons in Belgorod Oblast fell victim to a snowstorm. A cyclone, the fourth one by count, swept in from the Mediterranean Sea. The residents of Belgorod, despite being accustomed to sharp changes in the weather, could not recall such a sharp change in temperature ever occurring in the past. Within a matter of hours, the temperature increased from 13 degrees of frost to 1 degree of heat. The snow was replaced by rain. Subsequently, a cold wave of air blew in once again. All of this took place within a period of 5 hours. Electric power lines, the roofs of houses, trees, roads and the eaves of buildings became covered with an icy crust with lightning like speed. The people had been forewarned regarding the approach of the cyclone and thus they did everything possible to weaken the harmful effects of the elements. But it was not possible to gain complete protection. In some areas the layer of ice exceeded 30-40 millimeters. Each linear meter of wire was weighed down by more than 7 kilograms. As if struck by an avalanche of snow, thousands of poles for various power systems collapsed and hundreds of kilometers of wire disrupted. Dozens of kolkhozes

and sovkhozes were without electricity. "The oblast staff for combating the consequences of natural calamities" stated the deputy chairman of the oblast executive committee G. Andreyev, "undertook efficient measures aimed at restoring normal living conditions for victims in the various rayons. Mobile electric power units were employed for providing electric power for hospitals, children's pre-school institutes, bakeries and livestock farms. Approximately 18,000 individuals were assigned for the carrying out of restoration work. Two days after the cyclone commenced, 80 percent of all of the damaged systems were back in operation again. Nor did the elements ignore the powerful industrial region of Staryy Oskol. I placed a telephone call through to the municipal party committee. "We are continuing to correct the damage caused by the cyclone in our city and we have dispatched a large detachment of specialists to the neighboring Chernyanskiy Rayon for the purpose of restoring the normal operation of the industrial and agricultural enterprises" stated the secretary of the municipal party committee N. Zvyagintsev, "The workers of Staryy Oskol are following their schedules for the mining of ore, the production of iron ore concentrate and the smelting of steel." The territorial administration for hydrometeorology and control over the natural environment of the central chernozem oblasts of Russia has been informed that the cyclone also struck portions of Kursk, Voronezh and Lipetsk oblasts. Life in these oblasts is also returning to normal. /by V. Kulagin/ /Text/ /Moscow IZVESTIYA in Russian 14 Jan 85 p 2/ 7026

HIGH QUALITY SEED--Belgorod--Only select high quality grain will be placed in the soil on Belgorod fields during the spring. The seed fund for all of the spring crop fields has been prepared ahead of schedule. Special teams created on the farms and supplied with the necessary equipment ensured the preparation of high quality seed. The use of this seed will ensure an additional increase in yield. /Text/ /Moscow TRUD in Russian 12 Jan 85 p 1/ 7026

COMBATING THE ELEMENTS--Belgorod--The workers in Belgorod Oblast, who suddenly found themselves operating under complicated conditions, displayed a high level of organization in combating the elements. There was no forewarning of the misfortune; a damp snowfall was followed by an abundant rainfall. And immediately thereafter, as a result of a sharp drop in temperature, severe icing conditions commenced. Electric power lines, which were covered with a thick icy crust, were unable to withstand the weight. The power supply for enterprises, kolkhozes and sovkhozes and institutes was disrupted and complications developed in transport operations. The oblast's southeastern rayons felt the main blow of the elements. Rayon staffs, created under the direction of party and soviet organs, quickly organized operational groups and brigades of builders, installers and power engineers, who immediately commenced correcting the damage caused during the emergency. Belgorod workers came to the assistance of the victimized rayons. More than 5,000 workers went out to provide assistance to the rural workers. This made it possible, during the first few days, to create normal working and living conditions for the residents of cities, village and worker settlements in the victimized rayons. /Text/ /Moscow TRUD in Russian 13 Jan 85 p 4/ 7026

CONCERN FOR SEED--Kursk, 5 Jan--The oblast's farmers have completed cleaning their spring crop seed. The proportion of 1st class seed has increased from 52 to 61 percent. The decision was made to raise all 3d grade seed to the 2d



grade of the sowing standard. Magnetic units are being used for this purpose and grading of the seed has been organized. The varietal structure of the seed funds has been improved considerably. The importance of timely strain changing and strain renovation for raising the yields for all crops is well known. And it is by no means an accident that greater concern is being displayed at the Kursk\_kolkhozes and sovkhozes for organizing this work in the proper manner. /Text/ /Moscow SEL'SKAYA ZHIZN' in Russian 6 Jan 85 p 1/ 7026

SNOW RETENTION WORK--Kursk, 14 Jan (TASS)--The machine operators in Kursk Oblast have commenced their snow retention work. Here the snow cover has reached a height of one half meter. This is the first time that such a situation has been recorded by the meteorologists since the beginning of the century. The moisture retention work is being carried out mainly on tracts where sugar beets and spring grain crops are to be sown in the spring. Approximately 1.2 million hectares of agricultural land have been set aside for these crops. /Text/ /Moscow SEL'SKAYA ZHIZN' in Russian 15 Jan 85 p 1/ 7026

INTENSIVE SOWING PREPARATIONS--Voronezh, 6 Aug--Farms in all areas of the oblast are making intensive preparations for sowing their winter crops -- the fallow areas are being prepared, the predecessor crop fields are being tilled using non-mouldboard implements: shallow plows, disk harrows and sweeps. Using the new non-mouldboard technology, the Kantemirovets and Rassvet kolkhozes, the Kuznetsovskiy Sovkhoz and other farms in Kantemirovskiy Rayon have already prepared three fourths of their winter crop fields. Special concern is being shown for the seed. It is being improved to the highest condition. The grain cleaning machines at the Rossosh Kolkhoz imeni Lenin are being operated around-the-clock. /by A. Kat'kalov/ /Text/ /Moscow SEL'SKAYA ZHIZN' in Russian 7 Aug 84 p 1/ 7026

SEED QUALITY STRESSED--Voronezh, 27 Aug--The oblast's farmers have completed preparing their soil for the sowing of winter crops, the area of which amounts to 780,000 hectares. At the same time, active work is being carried out here in connection with preparing the seed and improving it to a high sowing condition. The kolkhozes and sovkhozes in Verkhnekhavskiy, Vorob'yevskiy, Nizhnedevitskiy, Novousmanskii, Kamenskii and other rayons have produced their own seed for productive varieties, grown on fallow fields using the intensive technology method. Special attention is being given to the quality of the seed fund. Thus, during the first 10 days in August more than 90 percent of the seed was raised to 1st and 2d class condition. The farms in Vorobyevskiy, Kashirskiy, Ostrogozhskiy, Podgorenskiy and Ternovskiy rayons, which have only 1st class winter crop seed at their disposal, have displayed enviable diligence. /by A. Kat'kalov/ /Text/ /Moscow SEL'SKAYA ZHIZN' in Russian 28 Aug 84 p 1/ 7026

SNOWPLOWS AT WORK--Voronezh, 15 Jan--The machine operators have moved hundreds of showplows out onto all of the tracts of autumn plowed land and winter crop and perennial grass areas and the kolkhoz members and sovkhoz workers have erected snowfences and bundles of branches. Thus snow retention work has commenced in all areas on farms in the southern, central and northern rayons. This work is being carried out best of all in Vorobyevskiy Rayon, where the white plowing has been completed on tens of thousands of hectares. /Text/ /Moscow SEL'SKAYA ZHIZN' in Russian 16 Jan 85 p 1/ 7026

FIELD PREPARATION WORK--Penza, 21 Aug--Hundreds of plowing tractors have been moved out onto the harvested fields in Kolysheyskiy Rayon. Both day and night they are preparing the fallow and carrying out autumn plowing work. They are thus establishing a strong foundation for the harvest of the final year of the five-year plan. Twenty five powerful plowing detachments have been created here. They will be staffed by the more experienced tractor operators. /by A. Andreyev/ /Text/ /Moscow SEL'SKAYA ZHIZN' in Russian 22 Aug 84 p 1/ 7026

INDUSTRIAL TECHNOLOGY EMPLOYED--Penza, 12 Sep--The oblast's kolkhozes and sovkhoses have completed sowing their winter grain crops. They have been planted on more than 625,000 hectares -- more than 40 percent of the grain crop sowings. The sowing was carried out over a considerable area using the industrial technology. Clean fallow was set aside for this purpose and organic and mineral fertilizers applied to it; all-round agrochemical cultivation was carried out on 50,000 hectares. All of the winter crops were sown using the best high yield varieties. This consisted mainly of Mironovskaya-808 winter wheat and Chulpan rye. The sowings of the Tarasovskaya-29 wheat and Saratovskaya-5 rye varieties, which have proved their worth, were also expanded. /by A. Andreyev/ /Text/ /Moscow SEL'SKAYA ZHIZN' in Russian 13 Sep 84 p 1/ 7026

AUTUMN SOWING OPERATIONS--Penza--The Penza farmers have commenced tending their winter crop seedlings. This year they carried out their autumn sowing work during the best agrotechnical periods on an area of 700,000 hectares of arable land. In the interest of increasing the production of grain, a considerable portion of the winter fields was sown following fallow and well fertilized predecessor crop arrangements. /Text/ /Moscow TRUD in Russian 27 Sep 84 p 1/ 7026

AUTUMN PLOWING COMPLETED--Tambov (TASS)--The plowing detachments on the oblast's fields are departing the fields. They carried out plowing on almost 1.5 million hectares. The machine operators in Gavrilovskiy, Tokarevskiy and Uvarovskiy rayons were the first to complete this work. The farm specialists have noted with satisfaction that the autumn plowing work on the principal area was carried out during the best and early periods. Mineral fertilizers have been applied to all fields on which sugar beets will be grown next spring. /Text/ /Moscow TRUD in Russian 20 Oct 84 p 1/ 7026

FINE PLOWING WORK--The collectives of plowing detachments on many kolkhozes and sovkhoses in Tambov Oblast coped successfully with their tasks for the principal soil cultivation in behalf of the harvest for the final year of the five-year plan. By 1 October, the machine operators had plowed more than 1.2 million hectares of autumn fields and clean fallow, having improved the quality of the work and having shortened the work schedules in the process. More than 46 percent of the autumn plowing work was carried out in August. Almost 70,000 tons of mineral fertilizer in active agent was applied in behalf of the principal soil cultivation. The collectives of detachments in Gavrilovskiy Rayon were the first to complete their plowing of autumn fields and clean fallow. [Excerpt] [Krasnodar SEL'SKIYE ZORI in Russian No 11, Nov 84 p 20] 7026

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AIRPORT REMAINS OPEN--Moscow--During the early part of January, those Moscow residents and guests of the capital who had to fly out to other cities sadly viewed the cloud-filled sky and the continuously falling snow. But surprisingly enough the airports were not closed -- the ground services of Aeroflot had made preparations in advance for the inclement weather. "After receiving the forecast" related the chief of Domodedovo Airport A. Chibisov, "we brought all of the snowplows and the runway heating system to a state of complete readiness. One take-off strip in particular was not cleared of snow, but in fact more snow was added to it. We benefited from this several days later when, following an abundant snowfall, rain suddenly began falling and one of the take-off strips became covered with ice. At this point, the snow was removed very rapidly from the second take-off strip and the airport continued to receive planes. The campaign against the snow continues at the present time. Leading this endeavor -- the brigade of V. Zimin, senior mechanic V. Isayev, drivers A. Shikalov, A. Minenko, V. Skvortsov, I. Zaborovets and P. Ponomarev. /by N. Dombkovskiy/ /Text/ /Moscow TRUD in Russian 12 Jan 85 p 4/ 7026

HYBRID SEED SHIPMENTS--Kishinev--The Moldavian seed growers have commenced shipping hybrid sunflower seed to farms in fraternal republics specializing in the cultivation of valuable oil-bearing crops. Prior to shipment, each batch undergoes testing in the laboratories of seed inspectorates. The germinative capacity of the oil-bearing seed is tested under various microclimatic conditions. All of the tests reveal a high vitality in the seed. /Text/ /Moscow TRUD in Russian 10 Feb 85 p 1/ 7026

SOYBEAN SEED PREPARATION--Kishinev--The Moldavian farmers have completed the preparation of their soybean seed for spring sowing. More than 2,000 tons were procured. /Text/ /Moscow TRUD in Russian 16 Feb 85 p 1/ 7026

CSO: 1824/270

LIVESTOCK

MINISTER REVIEWS STATUS OF LIVESTOCK PRODUCTION PROCUREMENT

Moscow ZAKUPKI SEL'SKOKHOZYAYSTVENNYKH PRODUKTOV in Russian No 12, Dec 84  
pp 1-3

[Article by V. Kolobayev, deputy procurement minister of the USSR: "Not Decreasing the Pace of Procurement of Livestock Products During the Winter Period"]

[Text] The fourth year of the five-year plan is coming to a close. It became a year of great work by our party and people to implement the decisions of the 26th CPSU Congress and the May 1982 and subsequent plenums of the CPSU Central Committee that are directed at further improving agriculture and at increasing the production and procurement of products in this branch. In order to improve food supplies it is essential to pay special attention to livestock products. A goal has been established--to increase the production and procurement of livestock products to a degree that will allow us in the near future to significantly improve the supply of meat and milk, of which there is a shortage at the present time, to the population. The decisions of the October 1984 Plenum of the CPSU Central Committee are also directed at sharply increasing the production and procurement of livestock products.

It should be noted that past years of the current five-year plan have not been easy in livestock raising. However, thanks to the enormous help of the state, to the consistent implementation locally of a general party policy on further intensification in livestock raising and to the selfless labor of agricultural workers and all participants in the agro-industrial complex it was possible to stop backsliding within this branch. Positive changes were noted in the production of many types of livestock products. The size of the cattle herd and the number of poultry increased, as did their productivity. Annual plans on the procurement of cattle, milk, eggs and wool have been fulfilled. State resources have been replenished with these products to a greater degree than last year.

In 9 months of the current year as compared to 1983 785,000 tons more cattle and poultry were procured than last year, 2,348,000 tons more of milk, 802 million more eggs and 1,400 tons more of wool.

Work on the procurement of surplus livestock products from private plots was carried out in a more organized manner. In 1984 there was significant

growth in the production and procurement of milk and meat in the Belorussian SSR, Lithuanian SSR, Latvian SSR and Estonian SSR.

According to totals for 4 years of the current five-year plan (1981-1984) the plans for procurement of cattle, milk, eggs and wool have been fulfilled by the Georgian SSR, Azerbaijan SSR, Kirghiz SSR, Tajik SSR, Armenian SSR and Turkmen SSR. In many kolkhozes and sovkhoses the quality of cattle, poultry, milk and other livestock products delivered to state reception-procurement points has improved. There are fewer violations in the delivery-procurement of livestock products, in determining their quality and in keeping accounts on them.

According to a resolution of the CPSU Central Committee, the USSR Council of Ministers, AUCCTU [All-Union Central Council of Trade Unions] and the Central Committee of VLKSM [All-Union Leninist Communist Youth League] and to results of all-union socialist competition for successful completion of overwintering of livestock and for increasing the production and procurement of livestock products during the winter period of 1983/1984 the following have been recognized as victors and have been awarded the Honorary Certificate of the CPSU Central Committee, the USSR Council of Ministers, AUCCTU and the Central Committee of VLKSM: the RSFSR, the Ukrainian SSR, the Belorussian SSR, the Azerbaijan SSR, the Lithuanian SSR and the Kirghiz SSR, 200 village rayons, and thousands of collectives of kolkhozes, sovkhoses, interfarm and other enterprises and organizations. This same resolution recognizes the expediency of continuing all-union socialist competition for the successful completion of overwintering of livestock and for increased production and procurement of livestock products during the winter period of 1984/1985 with a consideration of results for the fourth quarter of 1984 and the first 6 months of 1985. At the present time all republics, krays, oblasts, sovkhoses and kolkhozes are involved in this all-union competition.

The workers of state inspectorates on the procurement and quality of agricultural products in krays, oblasts and rayons have made a considerable contribution to the positive work results of 1984. Many rayon state inspectorates have found their place under the new organizational conditions, and being equal members of councils of agro-industrial associations they participate actively in the work of these associations and persistently work to include an examination of the most urgent questions from the sphere of procurement of livestock products during meetings of RAPO [Rayon Agro-Industrial Association] meetings.

In confirmation of this we can name the work of the state procurement inspectorates of Predgornyy Rayon, Stavropol Kray, of Pyarnuskiy Rayon of the Estonian SSR, of Volzhskiy Rayon of Kuybyshev Oblast, of Shushenskiy Rayon of Krasnoyarsk Kray and of Grodno, Cherkassy, Kursk and a number of other oblasts.

At the same time, while noting that which has been achieved, we cannot underestimate the shortcomings and inadequacies existing in the procurement of livestock products and we cannot forget about the enormous reserves of the branch. This should especially be kept in mind during the winter period when work conditions on livestock-raising farms become more difficult and when a

feed shortage is experienced in some places. The successful completion of overwintering of cattle is extremely important for implementing the party course to improve the population's well-being. Many kolkhozes and sovkhoses were well-prepared for the 1984/1985 overwintering period, have skilfully organized labor on livestock-raising farms and are achieving an increase in the productivity of livestock and poultry.

The main goal now is not only to secure that which has been achieved but to also facilitate continued growth in the production and procurement of livestock products. A worthy contribution to the solution of this all-union task must be made by the ministries of procurement of union republics and by the state procurement inspectorates of autonomous republics, krays, oblasts and rayons. Workers of the state procurement inspectorate must cooperate in every way possible with kolkhozes and sovkhoses in organizing socialist competition on farms for the successful completion of overwintering of stock and for an increase in the production and procurement of farm products. Special attention must be paid to the correct utilization of feeds available in enterprises, and especially of concentrated feeds.

This year it has turned out that despite somewhat of an increase in the size of the herd of all types of animals, the quantity of coarse, succulent and concentrated feeds procured for the coming winter period was somewhat smaller than last year. For this reason, all feeds must undergo preliminary preparations before being fed to animals. The proper preparation of hay, straw and silage increases their nutritive value and therefore economizes on grain. This means that it is important to persistently strive for uninterrupted operations of feed shops and for supplying the entire herd with feeds that have undergone preliminary processing.

At the present time the branch of livestock raising and its development are organically tied to the work of a number of branches of industry--mixed feed branch, microbiological branch, fish branch, food branch, meat branch, dairy branch and others. Production levels for meat, milk and other livestock products during the winter depend to a considerable degree on the precise and coordinated work of these links in the agro-industrial complex.

Great and responsible tasks must be solved by enterprises of the mixed feed industry, which are making their contribution to the execution of overwintering of livestock. Five enterprises in our system have been recognized as victors in all-union socialist competition for the successful completion of overwintering of livestock during the 1983/1984 winter period and have been awarded the Honorary Certificate of the CPSU Central Committee, the USSR Council of Ministers, the AUCCTU and the Central Committee of the VLKSM. These include Leningrad Order of Lenin Combine of Grain Products imeni S. M. Kirov, Magnitogorsk Combine of Grain Products in Chelyabinsk Oblast, Uglegorsk Experimental Mixed Feed Plant of Donetsk Oblast, Bobruysk Combine of Grain Products of Mogilev Oblast and Vevisskiy Combine of Grain products in the Lithuanian SSR.

This year many collectives of enterprises of the mixed feed industry increased the output and delivery to agriculture of high-quality mixed feeds and

protein-vitamin supplements for feeds. Thus, in 9 months the plan for the production of mixed feed has been fulfilled by 103 percent, including for poultry--by 104 percent, or BVD [protein-vitamin supplements]--by 104 percent, for premixes--by 105 percent and for carbamide concentrates--by 106 percent.

Products from the mixed-feed industry have become one of the bases for the feed balance in poultry-raising enterprises, in cattle-raising and hogbreeding complexes and in dairy complexes. This is why such high demands are made of the quality of mixed feeds. This is appropriate. A difficulty arises due to the shortage of protein forms of raw materials and biologically-active substances that are needed for the production of full-value mixed feeds. This is why a priority task of specialists in enterprises and on farms is to seek out and maximally utilize all internal reserves that provide the opportunity to increase the use effectiveness of mixed feeds. Such reserves do exist--first and foremost this means strict adherence to technological discipline, opportunities for strengthening technical-chemical controls and the introduction of scientific achievements, new techniques and progressive experience. At the same time, the role of competition is growing with regard to the mobilization of labor collectives to effectively use production potential, to introduce cost accounting, to strengthen the regimen of economy and care, to strengthen labor discipline and organization, to improve work conditions and increase work productivity and to increase every worker's interest in achieving high end results.

Unfortunately, in some enterprises of individual union republics existing reserves are not utilized fully by far. Even worse, there are instances in which non-standard mixed-feed production is tolerated in enterprises of the ministries of procurement of the Azerbaijan, Kirghiz and Lithuanian union republics.

It is essential that the procurement ministries of union republics more energetically carry out their work to renovate and technically reequip existing plants while at the same time increasing their production capacities and to establish strict controls over the correct use of grain and non-grain raw materials for the production of mixed feeds. Overconsumption of grain from state resources for these purposes should not be tolerated when non-grain raw materials are underutilized. Each instance of such overconsumption should be viewed as a gross violation of state discipline. Also intolerable is the practice of releasing whole grain from state resources for use as forage. Such grain must be processed into mixed feeds.

There should be constant controls over the timely delivery of mixed feeds directly to their places of use. It is essential to continue and expand the practice of using coordinated schedules for delivering mixed feeds from enterprises of the mixed feed industry to consumers.

To achieve timely deliveries of mixed feeds to consumers and to strengthen controls over their quality, the USSR Ministry of Procurement, in agreement with the USSR Ministry of Agriculture, is attaching poultry factories, large livestock-raising complexes and other specialized consumers to mixed-feed



enterprises, which will enable us to organize direct ties and well-paced work in complexes and plants.

The success of overwintering will also be facilitated by the timely and quality processing of livestock products in the enterprises of the meat and dairy industry. Meanwhile, there are many signals that a number of meat combines are not dealing with the slaughter of animals and that there are especially many difficulties related to the processing of small livestock and sheep.

A situation in which animals must await slaughter for 2-3 days after delivery is intolerable. In this case live weight is lost, nutritive value and therefore completed production is lost and quality decreases. Thus, in late September due to violations of reception schedules about 10,000 sheep delivered by trucks were waiting at the gates of Semipalatinskiy Meat Combine. Animals had to wait 2-3 days for slaughter. There were cases in which the reception of livestock was held back in September of this year due to overloading of refrigeration capacities in the enterprises of the meat industry of Poltava, Volyn, Kursk, Mogilev, Brest and other oblasts. The aforementioned shortcomings can be eliminated if we organize the reception of animals directly in enterprises with shipment to meat-processing enterprises utilizing transport belonging to procurement organizations.

State inspectorates on the procurement and quality of agricultural products in oblasts and rayons must be more energetic in dealing with these problems and in maintaining strict controls over the work of every enterprise, over strict adherence to confirmed schedules for delivery-reception of products by both parties and over adherence to conditions set forth in contractual agreements on livestock products. It is important to eliminate instances in which the quality of procured products is incorrectly assessed or accounts between procurers and suppliers are incorrectly recorded. The first duty of the state procurement inspectorate is to strengthen controls over mutual accounts and to guard the interests of kolkhozes, sovkhoses and the state.

The most important tasks of state procurement inspectorates include further and more unyielding work to introduce into procurement practice the leading methods of livestock procurement, including the reception of livestock and milk directly in kolkhozes and sovkhoses with shipment by means of transport belonging to procurement organizations. The work experience of enterprises in the Belorussian SSR's meat and dairy industry attests to the high effectiveness of direct ties between procurers and kolkhozes and sovkhoses. Here this method is used to receive over 60 percent of livestock and about 40 percent of milk. Procurers receive 60-70 percent of milk directly in kolkhozes and sovkhoses in the Moldavian and Estonian SSR's. However, in general this work cannot be recognized as satisfactory. In 6 months of 1984 procurers received only 26 percent of livestock and 31 percent of milk directly in enterprises and shipped it by means of their own resources. The reception of products in the place of production is very poorly organized in the Uzbek SSR, Turkmen SSR, and in a number of oblasts of the RSFSR and Ukrainian SSR.

State procurement inspectorates are obligated to carry out constant controls over the status of this work, to represent these problems more urgently in

local party and soviet organs and RAPO councils, and to take effective measures together with agricultural and procurement organizations to eliminate shortcomings.

The USSR Food Program emphasizes the importance of utilizing surplus livestock products from private plots and auxiliary enterprises of industry. This year more milk, meat and other livestock products reached state resources through these channels than in 1983. State procurement inspectorates must, together with members of the agro-industrial complex, strengthen attention to this question, create the necessary conditions everywhere for unhindered reception of surplus livestock products from private plots, and control the correctness of accounts with citizens for delivered products.

We cannot reconcile ourselves with instances in which reception points are closed during the winter period, in which the procurement network is curtailed so that some citizens are deprived of the opportunity to sell surplus products produced on private plots. In every village and rayon it is essential to carefully analyze the possibilities for citizen participation in the sale of surplus products and to coordinate the action of procurers with the goal of more fully utilizing the reserve of increasing feed resources in the coming year. State inspectorates on procurement and quality of agricultural products should be the main organizers of this important work locally. A large role in the procurement of surplus livestock products also belongs to procurers of consumers' cooperatives, who have improved their work in this direction in recent years. They should maintain the pace they have set for themselves.

As noted by the General Secretary of the CPSU Central Committee and Chairman of the Presidium of the USSR Supreme Soviet, Comrade K. U. Chernenko, in his speech at a meeting of the Politburo of the CPSU Central Committee, in 1985 work "...must be carried out by means of the mobilization of all forces for the successful completion of the current five-year plan and for the development of a good and stable base for the 12th Five-Year Plan."

Right now it is important to pay special attention to achieving above-plan growth in labor productivity, to decreasing the cost of production, to strengthening plan, procurement and labor discipline and to decisively eliminating instances of mismanagement and wastefulness. We must increase the sense of responsibility of every enterprise and farm of the meat and dairy industry, of state procurement inspectorates and of procurement ministries of union republics for the unconditional fulfillment of established goals and accepted obligations and for seeking out supplementary reserves to increase the production and procurement of livestock products and to improve their quality.

The implementation of these measures will facilitate the implementation of the Food Program and the successful fulfillment of the tasks for the 11th Five-Year Plan.

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## LIVESTOCK

### RSFSR ZONAL CONFERENCE ON LIVESTOCK SECTOR INTENSIFICATION

Moscow EKONOMICHESKAYA GAZETA in Russian No 5, Jan 85 p 8

[TASS article under the heading "Toward New Frontiers": "Important Questions of the Intensification of Animal Husbandry"]

[Text] Leningrad was the site of the January 25-26 conference of the zone's secretaries and chiefs of departments of kraykoms and obkoms of the Party and chairmen of agricultural-production units of the autonomous republics, krays and oblasts of the Northwest, Central, Volgo-Vyatka, Central-Chernozem, North-Caucasian and Volga regions of the RSFSR. The participants discussed the problems of establishing cost accounting and the collective contract in animal husbandry and of strengthening organizational and political work among animal breeders in view of the resolutions of the 26th CPSU Congress, the subsequent decrees of the CPSU Central Committee's plenary sessions and speeches of Comrade K. U. Chernenko.

Ye.K. Ligachev, CPSU Central Committee secretary, spoke at the conference.

L. B. Yerminev, first deputy chairman of the RSFSR Council of Ministers, addressed the gathering. Others who talked before the conference were L.N. Zaykov, first secretary of the Leningrad Oblast Party Committee and A.F. Ponomarev, first secretary of the Belgorod Oblast Party Committee, as well as other Party, Soviet and agricultural workers.

Conference participants took note of positive advances observed in animal husbandry during the actualization of the national Food Program. Plans for procurement of animal-farm products had been fulfilled before the deadline and overfulfilled for two years in a row. Their task now consists in strengthening and increasing what has been accomplished to raise the entire undertaking to a new level of quality. Primarily intensification of methods to improve livestock and poultry productivity by increasing the feed base and upgrading herd quality is the key to raised meat and milk production and an increase in that of other products. The branch's basic developmental road follows the way of greater production from the same animal population with lower input of feed, labor and other means of production.

A major step in this direction is extensive introduction into animal husbandry of input/output coordination, progressive forms of labor organization and incentives and maximum exploitation of economic levers. Cost

accounting as a method by which to make expenses commensurate with receipts, control the ruble and enhance efficiency and accountability for end results ought to become the practicable basis of all economic organizational activity. More boldness must be shown in establishing this system, initially in elements and subunits and eventually with full inclusion of all the collectives of brigades and the animal-husbandry sections of agricultural enterprises. Here, cost accounting ought to be actively combined with the collective contract. This is a progressive form of labor organization and remuneration that has been worked out in practice and results from the work of the workers themselves. It takes its place as an extremely important instrument in economic methods for administration and development of principles of autonomy in elementary industrial subunits.

Conference participants discussed the status of the introduction of cost accounting and of the collective contract as well as ways to strengthen this work and eliminate from it formalism and unevenness. Mention was made of transferring in the very next years to cost accounting and to a brigade-wide contract all collectives working in branches such as poultry breeding and the breeding and fattening of livestock while activating this process in dairy-cattle raising and the industry's processing branches, the sphere of service of the agricultural-industrial complex. These problems ought always to be the focus of attention for Party committees, agro-industrial units and the competent ministries and departments.

It was pointed out that in the republics, krays, oblasts and rayons there just be base farms where all the subunits would work on the principle of input/output coordination as a genuine school of the cadres' economic preparedness and overpreparedness. It was also termed obligatory to proceed more decisively with economic and social experiments. This will make it possible to experiment with progressive ideas and work out the elements of new forms and methods with subsequent mass introduction; mistakes must not be tolerated.

Special emphasis was given to the fact that continued improvement of Party direction of this branch and daily work with its people were a prerequisite for the realization of animal-husbandry tasks that are sizable and to a great extent new. Speakers made local Party committees aware that it is important that they continue to reinforce Party influence upon animal-husbandry units and complexes to strengthen the Party stratum and improve the work of organizations and Party groups within the plant section. The task is maximum utilization of the potential of lower-echelon Party links in order to resolve problems in farm production and in education. The Party-group organizations must be instilled constantly with this purpose with systematic conducting of seminars to teach contemporary organizational work and provide them the necessary aid and support.

The Party groups' militant and purposeful work and the Communists' pioneering role ought to be manifest in individual matters and the struggle for

the introduction of all new and advanced methods. Communists are summoned to set an example in accountability to one's work and take on the most difficult tasks. Measures should also be taken to improve actions on animal-husbandry sections of agricultural enterprises belonging to trade-union and Komsomol organizations, deputies' posts and groups of national control to enhance their active characteristics and strengthen their initiative. All these small cells of the political system ought to be included as much as possible in the resolution of the problems connected with intensification of the branch.

At the conference the wintering of livestock was considered as were the creation of favorable conditions for animal-husbandry workers' jobs and leisure as well as provision for their daily needs and medical care.

The conference participants learned about the work of Party organizations and collectives on units of the "Detskosl'skoye" and "Gatichinskoye" sovkhoses of Leningrad Oblast to intensify animal husbandry, to introduce the collective contract and input-output coordination and to realize large-scale plans for economic and social development. They visited animal-husbandry agricultural units and spoke with the animal raisers.

In the work of the conference the following took part: Deputy CPSU Central Committee Department Chiefs I. K. Kaputyan and P. Ya. Slezko as well as responsible workers of the CPSU Central Committee, RSFSR Council of Ministers, the All-Union Central Council of Trade Unions and the Komsomol.

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AGRO-ECONOMICS AND ORGANIZATION

ESTONIAN ACADEMICIAN ON APK INVESTMENT, ECONOMIC MANAGEMENT

Moscow EKONOMIKA I MATEMATICHESKIYE METODY in Russian No 6, Nov-Dec 84  
pp 973-982

[Article by M. L. Bronshteyn, Tartu: "The Economic Mechanism for Intensifying Agricultural Production"]

[Text] In our country, agricultural development has followed a path from primarily extensive forms of reproduction to more and more intensive forms directed at improving the economic productivity of the soil. During the pre-war and post-war periods material and labor resources were directed first and foremost at the development and reestablishment of the industrial and defense power of the country; for this reason it was necessary to extensively utilize natural soil fertility and to expand sowing area whenever possible. In this regard we cannot overestimate the historical significance of the assimilation of virgin and unused lands, begun 30 years ago, as the first stage in solving the food problem and in providing for the energy intake needs of the consumer.

The necessity to radically solve the food problem under conditions of the country's increased economic potential with limited lands suitable for agricultural use has been the reason for the thrust toward overall intensification as the general line of further agricultural development. This line found its inception at the March 1965 Plenum of the CPSU Central Committee and was fixed during subsequent party congresses and plenums of the CPSU Central Committee.

In the 1970's alone investments into complex mechanization, chemicalization and reclamation comprised 300 billion rubles, which is greater by a factor of 2.3 than during the 1960's. During this period the volume of agricultural production per hectare increased by a factor of 1.3 (Materials of the 26th CPSU Congress, Moscow: Politizdat, 1981, p 34). But during the aforementioned period a resource-intensive direction of intensive development prevailed, during which the growth of investments per unit of land area considerably surpassed an increase in output of agricultural products. Economic literature made an attempt to represent the great gap between the input and output of production as the natural result of the transition of agricultural production to an industrial path, foreseeing the lack of correspondence during the period of significant increases in investments and subsequent return on them. To some degree this is truly lawful and is confirmed by the experience of a number of countries which are carrying out the industrialization of agriculture. We

must also not forget the unfavorable climatic conditions of recent years. But the aforementioned processes cannot justify such a large growth in the capital-output ratio of agricultural production and the tendency that developed in the 1970's of an increased gap between increasing capital supplies and growth in agricultural production. Thus, during the Eighth Five-Year Plan for every 1.0 percent growth in gross production 1.8 percent of the increase in fixed production capital was needed; during the ninth--3.19 percent and during the 10th--4.22 percent (1, p 88). This is the basis for the consistent growth in the cost of agricultural production (considering the rise in price of production funds themselves) and in a drop in the profitability of kolkhoz and sovkhoz production.

The problem consists not only of the negative consequences of the resource-intensive direction of intensive development.

During the 1980's we also came across limitations on capital investments into agriculture and the agro-industrial complex (APK). They are related to the necessity to carry out a number of extensive and capital-intensive programs, particularly under conditions of significant increased costs for acquiring fuel and raw materials and of a deterioration of the demographic situation. Whereas previously it was possible to increase the proportion of agriculture and the APK in national economic investments, at the present time growth limits in this share have essentially been reached. Whereas during the 10th Five-Year Plan in the USSR as a whole 2.27 percent of growth in capital investments into agriculture were needed for each percentage of growth in gross agricultural production, 0.53 percent was planned for the 11th and 0.64 percent--for the 12th. An increase of 1.26 units of fixed production capital per unit of growth in gross agricultural production was foreseen for the 11th Five-Year Plan; for the 12th Five-Year Plan--1.42 units (1, p 88).

In essence we are discussing radical changes in the strategy of intensive agricultural development--a transition from resource-intensive to resource-sparing intensive growth. Here the effectiveness of utilizing production capital and capital investments must increase at least by a factor of 2-3. In the final analysis, the time it takes to carry out the USSR Food Program will depend on this. In his speech at the All-Union Economic Conference on Problems of the Agro-Industrial Complex, Comrade K. U. Chernenko pointed out that "the main path for achieving the indicated involves an acceleration of the transition of agriculture to an intensive path of development and a significant increase in return on the potential developed in kolkhozes and sovkhozes" (PRAVDA, 27 Mar 1984). Here the incorrectness of the concept of intensification as a qualitative growth of investments per unit land area was noted. The most important part of a strategy of intensive development is increasing production output per unit of resource potential (land, capital, work force).

Is such a significant improvement in the effectiveness of using the accumulated resource potential possible? The experience of a number of leading regions and enterprises in our country as well as in several other socialist countries speaks of the reality of these goals. But the path toward them is not an easy one--it requires radical changes in stereotypical economic thought and in the

economic practice of obtaining a decreased plan and increased deliveries of resources. Also required are extensive structural changes in investment policies, farming systems and especially in the management of the agrarian sector of the economy and in the economic mechanism.

At the All-Union Economic Conference on Problems of the Agro-Industrial Complex, Comrade M. S. Gorbachev noted three basic directions for increasing the effectiveness of utilizing resource potential and savings.

The first direction involves creating the optimal relationship among existing capital, improvements in the structure of capital and a strengthening of weak links. We are referring to achieving optimal balance among the factors involving intensive growth in the APK as a whole as well as those related to production and the production and social infrastructure.

For greater clarity let us look at the effectiveness model proposed during the last century by the German agrochemist Yu. Libikh (2). He equated the final effect with the level of liquid in a barrel. As we know, a barrel is made of separate wooden slabs, each of which can figuratively be called a growth factor (mechanization, chemicalization, reclamation, organization, the economic and social conditions of production activities and lives of workers, and so forth). All of these slabs can be dependable and of good quality, but if one turns out to be cracked the "level of the liquid" (end result) will be determined by this factor, which was termed the minimal factor. The most economic method for increasing end effectiveness is action on this factor. The described "model" is naturally simplified--usually there are several minimal factors, and proportions do not remain unchanged in time; for this reason the problem of predicting them and that of finding the optimal strategy and investment tactics arise. But the principle of discovering minimal factors--the weak link in the chain--is one of the fundamental ones for the implementation of a resource-sparing path of intensive growth.

Of the numerous structural problems, let us discuss the most important. First and foremost this involves increasing the role and technical level of capital-producing and processing branches of the APK. The problem consists of creating high-quality and modern systems (complexes) of machines and industrial technology which significantly decrease the energy, material and labor capacity of production of the APK's end product. Here we need principally-new decisions which will impede increasing costs of primary resources (fuel, energy and raw materials) obtained from nature. Only under these conditions will the cost of new equipment and technology not increase faster (as often occurs at the present time) than the effectiveness of its use, which is one of the reasons for the increase in the cost of agricultural products.

Another problem is investment policy within agriculture. Priorities that developed previously are well-known: first--investments into director production--mechanization, chemicalization, reclamation and the development of livestock raising complexes; second--investments into the production infrastructure of agriculture; and third--into the social infrastructure, where per capita investments for this purpose in the village were significantly lower than for the urban dweller. It was the lags in production and social infra-

structures that were those "cracks," the minimal factor, through which the effect "disappeared," i.e. there were considerable losses of production due to inadequate storage, shortcomings in transport and processing, a significant curtailment in volume and a certain deterioration in the structure of the work force in the village.

During the 1980's radical changes are planned for investment policy--investments into the social infrastructure take first priority, into the production infrastructure second and into agricultural production itself finally. It should be noted that the effectiveness of priority investments into the social factor, into preserving volume and improving the qualitative structure of the work force, is also completely confirmed by the experience of the Estonian SSR.

In the late 1950's and early 1960's the republic drew the proper conclusions about the fact that the future of agriculture and its effectiveness is determined by the quality of the work force in the village. It became clear that mechanization and subsequent industrialization of agriculture would decrease the quantitative need for labor resources. But contemporary agricultural production, which combines mechanical and biological factors, is at least no less complex than industrial production, and working conditions are usually more difficult. Wages in agriculture are much lower than in industry. Investments into the social infrastructure still lagged behind to a considerable degree.

The Estonian SSR was the first in the country to make a transition to guaranteed wages in agriculture on the level society needs. Now it is the only republic in which wages in agriculture are somewhat higher than the average for the national economy. In its time this was the subject of serious discussions--there was talk about "overpayment" for agricultural labor. But the maintenance of a relatively better qualitative structure of work force, and an improvement in labor activeness and initiative bore its own fruit--Estonia achieved the highest labor productivity (higher by a factor of 1.5 than in the rest of the Baltic States with an approximately equal evaluation of resource potential (3, p 61)), and comparatively the lowest cost and lowest proportion of wages in end agricultural production.

Let us note that at the present time it is impossible to preserve the necessary qualitative and quantitative structure of the work force in the village even with a relatively high level of wages. In quantitative terms the number of people involved in agriculture in the republic has almost reached the lower limit--less than 12 percent of the working population (4, p 132).\*

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\*We must look at the opinion that it is possible to further decrease the number of people working in agriculture. Usually the USA, where about 3 percent of the able-bodied population works in agriculture, is used as an example. But it must be kept in mind that the productivity of soil-climatic potential in the USA, according to the calculations of American scientists, is greater by a factor of 2.2 than in the USSR (2, p 128) and even more so when compared to the Estonian SSR. In the USA capital and energy supplies for agricultural work are significantly higher and the largest proportion of the population is involved in the first and third spheres of the APK.



serious disproportions in the professional structure of the work force (curtailment and shortage of basic working professions) and in its territorial distribution (a clearly evident shortage of workers in regions and enterprises with relatively worse natural-economic conditions).

We see a solution to the given problem in the accelerated development of the social infrastructure in the village--the building of modern housing, schools, kindergartens and cultural and trade centers which would take into account the special characteristics of rural life, with a relatively small number of the aforementioned facilities but with all the modern conveniences. Of course this will require more expenditures for the social infrastructure in the village than in the city. It is important to secure the preferential selection of professions with a high level of training, including those related primarily to woman's work in the village, creating for this purpose small industrial and other enterprises with a high technical-technological level which would enable us to maneuver labor resources during peak agricultural periods. Correspondingly, there must be a restructuring of the system of professional training. A more equitable distribution of the work force by rayon and enterprise is related to the solution of the problem of equalizing the objective conditions of management and consequently, the level of wages and the development of the social infrastructure.

The second direction for increasing effectiveness consists of the better use of the existing bioclimatic potential of the country as a whole as well as in every republic, rayon, sovkhoz and kolkhoz. It should be noted that until recently our main thrust in agriculture was at the technical and energy factors of growth, which in the final analysis are tied to the use of fossil fuels. But existing calculations show that with a single-factor energy-consuming intensification of agricultural production it would be necessary to expend 80 percent of all work energy resources (at the present time 5 percent are expended) to solve the world's food problem. This would mean that the world's oil reserves would be used up in the coming decade (5, p 11). Let us note that the USA could previously choose an energy-consuming path for intensifying agriculture by introducing relatively low prices for oil on the world market and by importing almost half of its liquid fuel.

The time for cheap fossil fuel is receding more and more into the past. This is why it is necessary to move from a primarily single-factor strategy of intensive growth to a multi-factor strategy, relying on the use of the bioclimatic and corresponding human (knowledge and skill) potential in agriculture itself.

The inclusion of bioclimatic resources in the intensification process cannot be reduced only to an attempt to take more from nature. Man must be concerned with renewing natural fertility and with preserving the necessary ecological balance. There is cause for alarm with regard to the impoverishment of the soil's natural fertility due to excessive removal of nutrients, which cannot be compensated for solely by means of introducing larger and larger doses of mineral fertilizers. It should be noted that the striving toward maximal productivity is not always economically and ecologically justified. Beyond a certain limit the expansion of production output per single land section



will require a sharp increase in expenditures.\* In addition, the varieties with the most biological productivity most often do not have enough resistance during noticeable changes in climatic conditions. In every individual case it is essential to find the economically and ecologically-based optimum between increasing production output and expenditures, between biological productivity and stability. This is why we are speaking primarily about the active accomodation (adaptation) of man's production activity to the laws of the natural sphere and about correctly coordinating bioclimatic, technical-technological, organizational and social-economic growth factors with nature's needs (5).

Active accomodation means first and foremost the correct distribution of agricultural production in soil-climatic zones and microzones within the country and a consideration of the special characteristics of every plot of land for the purpose of raising the most appropriate crops there and of determining which farming system will be most effective during the preservation and improvement of soil fertility. Calculations and studies show that by means of the efficient distribution of crops and the use of corresponding farming systems it is possible to increase the effectiveness of agricultural production by at least one third while keeping investments at the same level.

Thus, a resolution that is completely right for the country as a whole--to increase livestock production primarily by increasing grain production--can turn out to be economically and ecologically unjustified for certain regions, as for example the Estonian SSR, where the cost of grain is relatively high. The expenditure of human labor and energy per ton of feed units in grain is several times higher than per ton of feed units in perennial grasses. In recent years the cost of a feed unit of grass has been about half that of a feed unit of grain per unit of land area. In 1974-1979 grasses provided 10-12 percent more protein than grain or straw. In addition, the productivity of grains depends on climatic conditions to a more significant degree. Thus, during the last 10 years in three cases (1973, 1978, 1981) gross grain yield was about half that during years with normal growing conditions. The fluctuation of gross productivity rarely surpasses 20 percent during unfavorable years (6).

Naturally we are not talking about a decrease in gross grain yield in the Estonian SSR but about a more efficient structure for production of feeds. It is essential to utilize the soils and fertilizers that are most suitable for grains, thereby increasing gross yield by means of increased productivity and not by excessively expanding sowing area.

The third direction for increasing the effectiveness of the functioning of agriculture and the APK is related to improving the system of management

\*Until recently the recognition of the limits of effectiveness in growth of expenditures for individual factors of intensification for the given section of land was identified with the so-called "law of diminishing fertility," which slowed down the elaboration of parameters for investments with a consideration of economic and ecological criteria.

and the economic mechanism. We are talking about a more complete realization of the advantages of the socialist management system, the activation of the human factor and the restructuring of plan and economic orientation and incentives for seeking out the most effective resource-sparing decisions by every economic link. In this direction there should be a certain restructuring of all elements of the economic mechanism--planning and the organizational structure of management, economic controls and incentives. Let us look at the most important problems.

First of all it is essential to implement a transition from primarily a branch to a programmed-goal oriented method of planning APK development, which achieves balance in all elements of the APK and general directivity toward achieving a maximal end effect--producing the assigned volume of food while minimizing total expenditures of resources per unit of production.

We must find the optimal combination between general state centralized planning and initiative, independence and responsibility of local organs and economic units. This type of combination is possible if centralized planning is expanded to basic strategic positions--determining goal-oriented end installations and paths of scientific-technical progress and ways to increase the effectiveness of utilizing bioclimatic and technical-technological potential and corresponding labor resources; determining priorities and directions in investment strategy and developing main economic norms and controls of plan regulations.

The main planning-economic parameters (on the output and input of a given system) must be brought to the attention of territorial (republic, oblast, rayon) as well as lower links: the size of deliveries into union and republic food funds (with a consideration of an efficient scheme for distributing space and for evaluating resource potential); counter-deliveries of material resources according to the norm per 1,000 rubles of production; prices for the basic types of agricultural and industrial products; norms for payments into centralized funds; centralized financial and credit limits; and limits of building-installation work. An increase in the degree of independence of local organs and links in deciding the remaining circle of economic questions will increase their responsibility for the local food situation and for the effective use of resource potential with a consideration of the entire diversity of specific conditions, which is especially great in agriculture. The main difficulty consists of resource and economic supplies for the intensive and effective plans taken upon themselves by economic links themselves. These deliveries depend on the foundation for the entire system of economic norms and the firmness of mutual delivery guarantees, which must be fixed in the corresponding agreement--the plan-order.

It is essential to achieve a step-wise transition from a primarily branch to an integral management of the territorial APK. This type of approach is predetermined by the specifics of agriculture itself, in which the efficient utilization of two of the most important factors of production--land and labor--have an inflexible territorial foundation. The integrated management of the territorial APK allows us to achieve the necessary balance locally (where it is more obvious) between the development of agriculture and the service spheres of production and the infrastructure, to implement spatial

and interbranch maneuvers of resources to help lagging links, to "hammer together" all "slabs-factors," figuratively speaking, to connect them with a common "hoop" and to achieve the maximal effect. It is also important that the integrated approach provides the opportunity to build relations between the territorial and national-economic levels of the APK on the basis of end results of economic activity while increasing the degree of economic responsibility of each of these levels for the general state of affairs.

As we know, in the Estonian SSR and other republics the experiment on organizational and economic redesign of the rayon APK was successfully carried out. The RAPO [Rayon Agro-Industrial Association] represents the successful discovery of a form that achieved a better interaction between agricultural and service enterprises, greater balance in economic and social development, help for lagging enterprises and links, the creation of interfarm enterprises and so forth. On the whole the first RAPO's enabled us to better utilize resource potential and to achieve a more rapid pace of development. For this reason, after the May 1982 Plenum of the CPSU Central Committee it became the main form for managing the territorial APK in the country. But, as noted at the All-Union Economic Conference on Problems of the Agro-Industrial Complex, the possibilities of this management form have not been completely exhausted by far.

The given situation can be explained by subjective factors (the adherence by some directors to old administrative-transmission methods of management) as well as objective--the poor joining of rayon and republic (oblast) levels of management. Whereas on the first level the integrated approach began to play the leading role, at the second level the branch approach prevails--plan goals and resources are transmitted down from union ministries and republic departments.

Certain changes in the direction of integrated APK administration at the given level are projected in connection with the experimental development in the Estonian SSR of a union-republic agro-industrial association--USSR Agroprom. Within its framework, problems related to interrelations between agricultural and service spheres on a local level are dealt with more efficiently, material and labor resources are used more effectively and the management apparatus becomes simplified. At the same time, different departmental subordination is retained by organizations which belong to the republic APK--in relation to the ministries of the fruit and vegetable industry, procurement and the meat and dairy industry Agroprom plays only a coordinating role. A more complete integration of APK components is hindered by various instructions, resolutions and indicators that are in effect in union ministries and departments. Deliveries of supplies to the republic APK travel along different and often not coordinated channels.

The problem involves not only the restructuring of the organizational structure of management. In changing management methods the most important factor to rely on is economic controls, as noted at the All-Union Economic Conference on Problems of the Agro-Industrial Complex; in turn, these controls will inspire the search for and implementation of resource-sparing paths of intensive production development by all economic links.

Economic methods of management are built on the employment of independence, initiative and responsibility on the part of economic units within the framework of centrally-established goals and norms. In accordance with them principles of cost accounting should be utilized, beginning with the brigade (brigade contracts) and complete cost accounting in kolkhozes and sovkhoses; elements of cost-accounting relations are being spread to rayon and republic levels of the APK.

As we know, cost accounting presupposes that economic units bear complete economic responsibility for their decisions and actions--their material status depends on work effectiveness. But which decisions and actions should society recognize as effective and provide material incentives for? Until recently the indicator of plan fulfillment was the most important. For the sale of above-plan products an enterprise received a 50-percent supplement to price. This type of system encouraged them to "hammer out" decreased plans by proper and improper means and to ask for elevated deliveries of resources. Now we are stimulating growth pace to a greater degree. But it is easier to achieve a large degree of growth from a lower level, especially if more resources can be obtained. Since the basic path for our further development involves intensification on the basis of increasing return from the resource potential created in kolkhozes and sovkhoses, in evaluating and stimulating the results of economic activities the foremost indicator should be one on the effectiveness of utilizing accumulated resource potential (land, capital, work force) by every territorial and economic link.

There is a problem here. Let us look at indicators of differentiated levels of clear income from agricultural production per hectare of cultivated land in rayons and individual enterprises of the Estonian SSR in 1983. Normative profits reflect the income that is required with normal work on an average republic level and with a given supply of resources.\* Differences in normative levels reflect the action of objective (rental) factors. Divergence of the actual level from the norm demonstrates differences in management effectiveness and thus in the use of resource potential by rayons and enterprises.

The data in Table 1 attests to the presence of great differences in objective conditions, management levels and utilization of resource potential--differences in the latter coefficient reach 200 percent between rayons, and between enterprises it is significantly higher (see Table 2). Thus we have the urgent need to develop an effective mechanism of economic responsibility on the part of economic links with regard to the degree of effectiveness of utilizing resource potential. It presupposes that there will be a firm relationship between the normative evaluation of resource potential and the effectiveness of its use and the distribution of plan quotas and resources, the determination of norms for payments by enterprises into centralized rayon and republic funds and the naming of victors of socialist competition.

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\*The methodology developed by R. Tiyvel' is employed in calculations.

Table 1

Differentiated Levels of Income (Profits per Hectare of Cultivated Land) in Rayons of the Estonian SSR in 1982			
Region	Profits from production of agricultural products (rubles/ha)		Coefficient of effectiveness of utilizing resource potential (ratio of actual profits to normative)
	Actual	Normative	
1	124.95	102.36	1.22
2	100.62	145.34	0.69
3	401.29	245.78	1.63
4	161.11	156.02	1.03
5	149.23	105.07	1.42
6	133.32	167.31	0.80
7	174.91	175.31	0.99
8	184.89	129.16	1.43
9	149.55	137.43	1.09
10	231.38	181.90	1.27
11	96.78	122.08	0.79
12	116.51	123.65	0.94
13	65.83	107.02	0.61
14	202.44	184.55	1.10
15	122.08	98.19	1.24

Table 2

Differentiated Levels of Income (Profits per Hectare of Cultivated Land) in Individual Enterprises of the Estonian SSR in 1982			
Enterprises	Profits from production of agricultural products		Coefficient of effectiveness of utilizing resource potential (ratio of actual profits to normative)
	Actual	Normative	
Rakvereskiy Rayon			
Vinni Sovkhoz	417	187	2.23
Energiya Kolkhoz	155	207	0.75
Khar'yuskiy Rayon			
Kungla Kolkhoz	247	179	1.38
Ravila Sovkhoz	87	207	0.42
Pylvaskiy Rayon			
Vyarska Sovkhoz	2.33	171	0.013
Saverna Kolkhoz	265	187	1.42
Pyarnuskiy Rayon			
Soontagana Kolkhoz	235	93	2.53
Sindi Sovkhoz	267	604	0.44
Khaapsaluskiy Rayon			
Linnamyaye Kolkhoz	229	120	1.91
Lyakhula Sovkhoz	19	50	0.38



Table 3

Deductions Into Centralized Funds of the Agricultural Association  
From Profits of Enterprises-Members of the Vil'yandiskoye RAPO in 1981

Index of groups of enterprises	Enterprises	Coefficient of evaluating objective management conditions in 1980 (norm)	Rate of deductions into centralized funds per ha, rubles	Cultivated land as of 1 Nov 1981	Deductions per hectare, rubles	Deductions into centralized funds, thousands of rubles
I	Sovkhoz imeni Gagarin	3.16	3.20	7,337	35.68	261.8
II	Karksi	2.09	2.00	3,620	22.30	80.7
III	Paala	1.43		1,816		27.3
	Kindel' Tee	1.32		2,088		31.4
	Vyyt	1.28		1,936		29.2
	Total for Group III	1.34	1.35	5,840	15.05	87.9
IV	Vambola	1.09		3,422		40.0
	Vykhma	1.01		4,750		55.6
	Group IV total	1.05	1.05	8,172	11.70	95.6
V	Kal'yu	0.99		3,117		31.2
	Leye	0.95		3,717		37.3
	Kolga-Yani	0.83		3,033		30.5
	Group V total	0.92	0.90	9,872	10.03	99.00
VI	Lembitu	0.68		3,398		24.6
	Kyrgemyaye	0.66		3,814		27.7
	Kypu	0.64		2,365		17.1
	Group VI total	0.66	0.65	9,577	7.25	69.4
VII	Kyarstna	0.53		3,860		21.6
	Kamara	0.49		5,094		28.4
	Tarvastu	0.48		5,380		30.0
	Khalliste	0.47		4,765		26.6
	Group VII total	0.50	0.50	19,099	5.58	106.60
VIII	Suyslepa	0.44		3,049		13.6
	Paystu	0.38		5,073		22.6
	Group VIII total	0.41	0.40	8,122	4.46	36.2
IX	Ab'ya	0.24	0.25	4,587	2.79	12.8

The time has also come to create centralized funds on a republic level by means of firmly-established payments by rayon and branch links of the APK for the economic regulation of production and social processes. This includes the following funds: development (innovations), by means of which it will be possible to rapidly introduce progressive technical-technological decisions

and to develop objects of interbranch and inter-rayon significance; compensation, for objectively-worse management conditions; regulation, to control procurement and wholesale prices, etc.

For the effective functioning of the economic mechanism it is extremely important to select a well-grounded principle for deductions from profits during the formation of centralized funds. In the Estonian SSR within the framework of the RAPO an experimental system of rental payments, which in our opinion is promising, is being examined. Differentiated norms for payments into RAPO funds were established by evaluating resource potential (land, capital, work force). The coefficient of normative evaluation of objective management conditions (average evaluation by rayons equal to one) has been accepted as the base. In accordance with this, differentiated deductions from enterprises (from 3 rubles 20 kopecks to 25 kopecks) per hectare of cultivated land--arable land, cultivated pastures and haylands--have been established (Table 3).

The accepted system of payments, supplemented by the procurement plan for products, which is established on a normative basis with a consideration of the optimal plan for distributing production and the results of production at a given level of resource supplies, enables us to develop economic relations within the RAPO on an objective basis. Moreover, with differentiated payments deducted by enterprises according to an evaluation of resources and with the formation of a centralized aid fund (compensation for objectively inferior conditions), it becomes materially possible to advance lagging enterprises. This is why we feel it is expedient to introduce a similar system at the republic level of the APK.

Price formation is especially important within the system of cost-accounting stimulation and economic responsibility. Without examining the entire complex of difficult problems of further improving wholesale, procurement and retail prices within the APK, I would like to note the undesirable tendency to overload price formation with an equalizing function, the basis of which is the strengthening of differentiation of procurement prices. To some degree it can be understood that inter-zonal differentiation of procurement prices is utilized with the goal of equalizing management conditions while taking into account differences in natural-economic conditions. But intra-zonal differentiation also increases. Price supplements are being used more and more extensively for unprofitable and low-profit enterprises, which often receive the non-effective production links. As a result there is a decrease in economic responsibility accompanying the indistinct nature of economic orientation and stimulants. If we also consider the tendency toward the insufficiently grounded growth of prices for production goods and services supplied to agriculture, we can see the danger of further increases in production losses.

It is possible to increase the degree of economic responsibility by introducing prices on the same level which consider the publicly-essential expenditures for reproduction and the consumer effect of production. Here it is more expedient and effective to deal with redistribution functions by means of direct payments and supplements. A single price level for the given use value does not exclude the necessity to correct price relations for various types of agricultural products based on the specific conditions in a region.

It would hardly be possible in one center to work out optimal price correlations for every region of the country that would stimulate the most effective use of specific natural-economic potential. For example, in the Estonian SSR this potential is most suitable for the development of dairy farming. But with existing procurement prices it is more advantageous to produce eggs and to feed hogs using imported grain--this provides 3-4 times more profit per unit of total investments with fewer concerns related to the development of one's own feed base. The given problem can be solved in the republic by utilizing the method of reductions from prices for high-income products and supplements to prices for low-profit products. It is just as important to make sure that the general level of procurement prices established for the republic achieves the reimbursement of publicly-essential expenditures for reproduction. This type of level developed after the May 1982 Plenum of the CPSU Central Committee. A correction of the correlation of procurement prices together with the proposed system of rent payments and subsidies will provide the opportunity for flexible and efficient economic management with the goal of increasing the effectiveness of the functioning of the territorial APK.

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AGRO-ECONOMICS AND ORGANIZATION

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IMPROVE RSFSR CAPITAL INVESTMENT PLANNING, UTILIZATION

Moscow SEL'SKOYE KHOZYAYSTVO ROSSII in Russian No 2, Feb 85 pp 2-3

/Article by G. Kulik, chief of the Main Planning and Economic Administration of the RSFSR Ministry of Agriculture: "Prudent Use of Capital Investments"/

/Text/ In solving the tasks concerned with the development of farming and animal husbandry, the workers in the Russian countryside are clearly aware that the Communist Party and the Soviet Government are devoting constant attention to the intensification of agriculture and its associated branches. Large amounts of material resources and capital investments have been used and are being used for this purpose. It is sufficient to state that compared to 1965 the productive capital of kolkhozes and sovkhoses in the Russian Federation have increased by a factor of more than five and the farms have been converted into large-scale highly mechanized enterprises, each one of which has an average of 45 tractors, 19 grain harvesting combines, 26 motor vehicles and 307 electric motors, with the value of the fixed capital exceeding 7 million rubles. There are many such farms.

Even during 1984, an extremely unfavorable year from the standpoint of weather conditions, the republic's kolkhozes and sovkhoses sold 13 percent more meat to the state than the average amount sold during the years of the 10th Five-Year Plan, 11 percent more milk, 22 percent more eggs and 5 percent more wool. Increases took place in the purchases of potatoes, vegetables, fruit, grapes, flax fiber and other products. The average annual gross output volume during 4 years of the current five-year plan amounted to almost 59 billion rubles, compared to 57.2 billion rubles obtained on the average during the 1976-1980 period. This increase was achieved by raising labor productivity.

Efficient management involves economies in the use of material and labor resources. Another approach, other than the one used in the past, is required for solving this problem today. At the present time, we must rely upon continuous increases in the resources being used. Thus economies in our times are becoming a most important source for the expanded reproduction of agricultural products. It has proven to be helpful on each farm to develop a specific and clear plan of action for realizing economies and for establishing strict control over the carrying out of this plan.

Unfortunately, maximum use is still not being made of the production potential available on many farms. This is one of the chief reasons for the reduction in

the rates of growth in the production of goods and also for the increase in production costs. During 3 years of the current five-year plan, capital investments at kolkhozes and sovkhoses in Bryansk Oblast increased by 24 percent, the power engineering capabilities increased by 66 percent and gross output declined. Roughly the same situation prevails in Ryazan Oblast.

As a result of excessive growth in capital investments, the output-capital ratio has declined and this has brought about an increase in the cost of the products being produced. The situation is especially unfavorable in this regard on farms in Kostroma, Volograd, Yaroslavl, Perm and Amur oblasts.

The production potential that has been created is being used differently by various oblasts. The final production results also differ. This can be revealed rather adequately using two oblasts as an example -- Moscow and Leningrad -- both of which are characterized by a high level of production mechanization and capital availability. Here are several figures.

	Leningrad Oblast (1983 in percentages of 1975)	Moscow Oblast
Capital availability	175	172
Power availability per 100 hectares of arable land	127	124
Gross output	145	116
Labor productivity	142	132

It is apparent from the above data that for equal rates of growth in technical equipping, gross output production on farms in Leningrad Oblast increased by 45 percent during the 11th Five-Year Plan and in Moscow Oblast -- by only 16 percent. As a result, the labor productivity level and overall production profitability on farms in the Moscow region turned out to be lower.

The decisions handed down during the October (1984) Plenum of the CPSU Central Committee are opening up a new and broad stage in the campaign aimed at implementing the Food Program. "The Central Committee" commented Konstantin Ustinovich Chernenko during the Plenum, "is today raising the question of carrying out land reclamation work on a broad scale, viewing it as a decisive factor for further improving agriculture and strengthening the country's food fund in a stable manner." Large amounts of national currency are being invested in each restored hectare of land and thus we cannot tolerate any reduction in the return from capital investments or in work levels as a result of mistakes or lack of organization. The agricultural organs in the various areas must raise their demands with regard to the results being realized from the economic development of restored lands.

More and more attention is being given today to those questions concerned with the formation of an optimum structure for fixed capital and for achieving an economically sound ratio between the active (equipment, power machines, transport equipment) and passive (buildings, installations, transfer equipment) portions of capital and also between the productive and non-productive capital.

Over the course of two five-year periods, for the Russian Federation as a whole, the proportion of buildings, installations and transfer equipment with regard to the overall amount of capital increased from 48 to 65 percent, while the proportion of active capital decreased from 27 to 21 percent. On many



farms this produced a situation wherein old technology is being employed in modern and costly facilities, all-round mechanization is lacking and there is a shortage of light mechanization equipment. All of this is raising labor expenditures and lowering the overall effectiveness expected from the capital investments.

The active portion of the capital at kolkhozes and sovkhoses in Kaluga, Tambov and Kirov oblasts continues to remain especially low. It is by no means an accident that the output-capital ratio here is considerably lower than the average indicator for the republic.

How should the capital investments be distributed? First of all, each farm must uncover those bottlenecks in the development of its logistical base which are restraining the further development of production. Experience has shown that the greatest effectiveness is realized from the investment of resources in the farming branch, mainly in feed production, and in developing a base for the use of chemical processes and for the repair of equipment. And here mention should necessarily be made of the fact that a number of farms have been very poorly supplied with silage and haylage installations and hay barns. For example, the republic's requirements for standard storehouses for succulent feed are being satisfied by only 59 percent.

The specialists have estimated that the forage losses caused by a shortage of storehouses at kolkhozes and sovkhoses amount to many millions of tons of feed units annually. The amount available is sufficient for the production of 7 million tons of milk or a million tons of meat. Meanwhile, the farms are still not devoting adequate attention to the construction of these installations. Thus, in the capital construction plan for 1984, at sovkhoses in the Dagestan ASSR and Kaluga Oblast, only 5.6 percent of the capital investments allocated are being used for feed production and in the Yakut ASSR -- 11 percent.

Just as in the past, the farm expenditures for operation of the machine-tractor pool continue to remain considerable. The output of a tractor is increasing only slowly and over-expenditures of fuel and spare parts are being tolerated. For the republic's sovkhoses as a whole, the expenditures for operation of the machine-tractor pool per 100 rubles of field crop husbandry products produced increased from 29 rubles in 1973 to 43 rubles in 1983.

One reason for this -- shortcomings in the servicing of equipment. In the Komi and Mari ASSR's and in Kostroma and Magadan oblasts, only 25 percent of the kolkhozes and sovkhoses have standard repair workshops. In Ivanovo, Gorkiy, Kirov and Tambov oblasts, 90 percent of the farms lack technical servicing points. A requirement exists for re-equipping the petroleum-storehouse economy.

In connection with creating stable labor collectives, considerable importance is being attached today to further expanding housing and cultural-domestic construction in the rural areas. In addition to the entire increase in capital investments, a portion of the funds used earlier for creating fixed productive capital must be employed for this purpose.

Last year, 20 or more apartments were placed in operation for each sovkhos in Leningrad, Moscow, Gorkiy, Kuybyshev, Chita and Omsk oblasts and in the Mari

ASSR. Based upon experience accumulated in Lipetsk Oblast, all support enterprises in addition to the construction organizations must participate in the task of solving the housing problem.

The program for expanding housing, cultural-domestic and highway construction will be continued during the 12th Five-Year Plan. For the 1986-1990 period, the plans call for the placing in operation of 64.2 million square meters of housing space and hundreds of pre-school institutes, schools and clubs.

However the facts indicate that by no means is serious attention being given to housing construction in all areas. In 1984, for example, farms in Yaroslavl and Smolensk oblasts allocated only 21 percent of their capital investments for this purpose. Meanwhile, it is precisely because of a lack of housing that a personnel shortage is being experienced here, especially in livestock breeders and machine operators.

Special attention must be given to economically weak and remote farms. In conformity with the decisions handed down during the May (1982) Plenum of the CPSU Central Committee, measures are being carried out aimed at strengthening the farm economies and a considerable amount of work is being carried out throughout the republic in connection with reducing losses and raising the profitability of agricultural production. In 1983, more than 84 percent of the farms completed the year with positive results. A considerable reduction took place in the number of unprofitable farms.

At the same time, even under the conditions experienced during 1983, there were still 3,600 kolkhozes and sovkhoses which sustained losses. In particular, many such farms were located in Novgorod, Kalinin, Kaluga, Kostroma, Rostov, Kurgan, Omsk, Irkutsk and Amur oblasts and also in Khabarovsk and the Maritime krays.

An analysis of the causes of unprofitable operations by enterprises reveals that as a rule the economically weak farms lack a developed infrastructure and that the majority of them are poorly supplied with housing, children's pre-school institutes, schools, medical stations, dining halls, clubs and other facilities of a social-domestic nature.

Rather interesting in this regard is the data on the level of support, in the form of housing and social-domestic facilities, for profitable and unprofitable farms (per farm)(see Table on following page).

As a rule, unprofitable and remote farms are not as well supplied with fixed capital. In the Udmurt ASSR, for example, the capital supply for unprofitable kolkhozes and sovkhoses is 20 percent lower than that for profitable farms.

At the economically weak Azanovskiy Sovkhoz in Kalinin Oblast, the availability of capital is lower by a factor of three than that for the region as a whole. The farm does not have a club, medical station, kindergarten or nurseries. As a result, this led to a shortage of personnel, with the per worker workload on the farm being 65 hectares of agricultural land -- greater by a factor of five than the average for the oblast.

	Жилая площадь, тыс. кв. м		Детские учрежде- ния, мест		Каубы, мест		Столовые, мест	
	в убыточном хозяйстве	в прибыльном хозяйстве	в убыточном хозяйстве	в прибыльном хозяйстве	в убыточном хозяйстве	в прибыльном хозяйстве	в убыточном хозяйстве	в прибыльном хозяйстве
	(5)	(6)	(5)	(6)	(5)	(6)	(5)	(6)
Кировская область (7)	1,4	1,7	14	16	155	347	14	24
Ульяновская область (8)	1,8	3,0	5	36	64	151	10	29
Алтайский край (9)	0,6	8,1	5	93	138	252	24	30
Тюменская область (10)	0,4	5,3	4	75	77	163	12	30
Хабаровский край (11)	5,8	12,0	71	106	57	120	12	17

**Key:**

- |  |                         |
|--|-------------------------|
| 1. Housing space, thousands of square meters | 6. At a profitable farm |
| 2. Childrens' institutes, places             | 7. Kirov Oblast         |
| 3. Clubs, places                             | 8. Ulyanovsk Oblast     |
| 4. Dining halls, places                      | 9. Altay Kray           |
| 5. At an unprofitable farm                   | 10. Tyumen Oblast       |
|  | 11. Khabarovsk Kray     |

Measures are being undertaken this year aimed at correcting the situation. A complex of measures has been developed for each unprofitable farm in the various areas aimed at strengthening the logistical base for such farms. The plans call for the capital investments for these farms to be increased by 20 percent prior to the end of the five-year plan. Compared to 1983, the deliveries of mineral fertilizer will be increased by a factor of 1.5 during 1985. Increases will also take place in the sale of pedigree animals and high quality seed. In the form of financial assistance to the kolkhozes, 1.7 billion rubles will be allocated for the construction of housing units, schools and childrens' institutes. These funds must be utilized to maximum advantage.

The rayon agroindustrial associations are presently playing a leading role in carrying out improvements in the planning and use of capital investments. The RAPO /rayon agroindustrial association/ councils must examine the distribution of capital investments among the farms and production branches and determine the volumes of contractual work and the placing of installations in operation. They are authorized to create centralized funds for the development of production. Moreover the councils can, with the consent of the kolkhozes, assign to these funds up to 15 percent of the resources withheld from net income for the indivisible fund and up to 5 percent of the amortization deductions intended for the complete restoration of fixed capital.

This is an important measure and one which will ensure more uniform development of the logistical base of enterprises and organizations included in a RAPO structure.

Improvements in the planning of capital investments and improvements in the use of the production potential already created -- these tasks are dictated by the overall program aimed at raising the efficiency of agricultural production.

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FORESTRY AND TIMBER

TIMBER INDUSTRY 1984 PROGRESS, PROBLEMS EXAMINED

Moscow LESNAYA PROMYSHLENNOST' in Russian 29 Dec 84 p 1

[Editorial article: "Toward Innovation"]

[Excerpts] Timber procurers achieved good results this year. Intensive work by party and trade union organizations and extensive stepwise socialist competition among labor collectives for the shipment of 106 million cubic meters by the 114th anniversary of V. I. Lenin's birth and then for the fulfillment ahead of schedule of the 9-month and annual plan bore fruit. For the first time in recent years timber workers came close to their annual limits. The last dash toward achieving the required goal remains.

Reports about the early completion of the year's quota have already arrived from the collectives of timber procurers of Irkutsk, Sverdlovsk, Novgorod, Kirov and Chelyabinsk oblasts, the Karelian SSR and the ministries of the timber industry of Belorussia, the Ukraine and Estonia.

Success has been achieved thanks to the precise organization of work, a high level of discipline, engineering support of workers' initiative and well-organized socialist competition.

Timber detachments do not stop at that which has been achieved. By utilizing the favorable winter period for timber procurement, they accelerate the pace of labor and strive to give the country thousands of above-quota cubic meters of first-quality wood.

The achievements of timber procurers could have been more weighty had associations such as Arkhangel'sklesprom [Arkhangel'sk Timber Industry Association], Komilesprom [Komi Timber Industry Association] and Dal'lesprom [Far East Timber Industry Association] not let them down.

An analysis of the work of lagging enterprises speaks of the fact that there are enormous reserves for improving their work. Those who lag behind must catch up without delay, must utilize every hour of work time effectively and must utilize technology more efficiently. They are called upon to make up for lags from the very first days of the new year and to work according to the established schedule.



But the procurement and shipment of timber is not an end in itself for the base sub-branch. It is important that all the timber be separated on time and sent to the consumer in the required nomenclature on schedule. Enterprise directors, party and trade union organizations and labor collectives must do everything in order to avoid breaking contracts.

Workers of the pulp and paper industry worked unevenly this year. Good results were achieved by the collectives of Kotlasskiy, Kondopozhskiy and Permskiy TsBK's [Pulp and Paper Combines] and by the enterprises of Belbumprom [Belorussian Paper Industry Association]. Thanks to their efforts the plan for newsprint, feed yeast, cardboard packaging and several other indicators is being successfully fulfilled. However, there is cause for alarm concerning a drop in planned volume for production of pulp, cardboard and printing and writing paper. Working below their capacities were the Amurskiy and Selenginskiy TsKK [Cellulose-Cardboard Combines], the Ust'-Ilinskiy LPK [Timber Industry Complex] and other enterprises. All-union associations and ministry administrations must do everything to improve lagging enterprises, to fulfill their duties in the new year and to achieve the fulfillment of the goals of the five-year plan.

As usual, furniture workers will gladden us. From quarter to quarter they have been achieving high technical and economic indicators. Having fulfilled the plan and socialist obligations for this year, they have planned a new goal-- to give the country additional household items worth 240 million rubles. Among the leaders are the labor collectives of VPO's [All-union production associations] Yugmebel' [Southern Furniture Production Association], Tsentromebel' [Central Furniture Production Association] and Sevzapmebel' [Northwestern Furniture Production Association] and enterprises of the Ukraine, Estonia, Latvia, Lithuania, Belorussia and Moldavia.

Good production indicators were achieved by the labor collectives of the Iskra, Gigant, Belka, Krasnaya Zvezda and other match enterprises. Thanks to their efforts plan goals are being fulfilled successfully.

Sawmill workers, veneer appliers, laminate workers and workers of housing-construction combines are working below their capacity. It is essential to efficiently analyze lags and to take energetic measures to eliminate bottlenecks.

The enterprises of USSR Gosleskhoz [State Timber Industry Association] are close to fulfilling plan goals. Reports have been received about the fulfillment of plans ahead of schedule by the Komi ASSR and North Osetian ASSR ministries of the timber industry, by the Gorkiy and Kuybyshev administrations of the timber industry and by enterprises in the Ukraine, Belorussia, Moldavia, the Chuvash ASSR, Tatar ASSR and Udmurt ASSR. Many other ministries and enterprises are on the verge of fulfilling their quotas for the year.

The coming year will be unusual in many ways. It will be a year of active preparations for the 27th CPSU Congress, for the 40th anniversary of victory in the Great Fatherland War and for the 50th anniversary of the Stakhanov movement. During this same period elections will be held for the supreme



soviets of republics and for local councils. Preparations for these important political events are accompanied by increased labor activeness of workers in collectives. Brigades, shops and entire enterprises are taking increased socialist obligations and intensive counter-plans upon themselves.

Competition among timber procurers for the shipment of 108 million cubic meters of timber in honor of the 40th anniversary of the great victory must become the main campaign. In order to fulfill that which has been planned it is essential to work more intensively, yielding greater results, from the very first days of the new year. It is the task of party and trade union organizations to raise the banner of competition higher and to support workers' initiative. The slogan, "Not a single lag," should become the mobilizing stimulus of shock work.

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## WATER RESOURCES AND LAND MANAGEMENT

### LAND RECLAMATION DEVELOPMENT, PROBLEMS DISCUSSED

Moscow PRAVDA in Russian 27 Nov 84 p 2

[Article by I. Mozgovoy, secretary of the Ukrainian Communist Party CC: "Transformation of the Land--Party Life: Style and Methods of Leadership"]

[Text] The communists and all of our republic's workers received with great satisfaction the decisions coming out of the October 1984 Plenum of the CPSU Central Committee, which approved the Long-Range Land Reclamation Program for the 12th Five-Year Plan and Extending to the Year 2000 worked out by Comrade K.U. Chernenko.

Half of the agricultural land in the Ukraine is in a zone with inadequate moisture, and every 6th hectare receives too much water. The experience of many years has shown that agricultural production in the south suffers great losses from drought every 3 years, on the average, that excessive precipitation causes damage in the low-lying, wooded and western oblasts. Life has confirmed the correctness of the party's course of extensive land reclamation.

More than 7,000, or two-thirds, of the republic's kolkhozes and sovkhoses now have reclaimed land. While accounting for only 12 percent of the total arable land, it presently produces one-fifth of the output from crop cultivation. The plenum of the Ukrainian Communist Party Central Committee, held in November, defined steps to enhance effectiveness in the use of all irrigated and drained land.

A powerful base of water management organizations has been created in the republic within a brief period of time. The Ministry of Land Reclamation and Water Resources of the UkSSR has more than 400 contract construction organizations and five planning and prospecting institutes with branches in all the oblasts. A total of 16,000 communists and 18,000 Komsomol members work in the crucial areas.

All of this has created the conditions for accelerating the rate of reclamation work, for the industrializing of water management construction and for the building of irrigation and drainage systems at the modern technical level. Large-capacity irrigation systems such as the North Crimean, Kakhovskaya, North Rogachikskaya, Krasnoznamenskaya, Frunze and Ingulets systems, the Dnepr-Donbass Canal and others have begun operating or are being constructed in the southern part of the republic.

The area of reclaimed land in the republic has grown to 5.2 million hectares, a 2.7-fold increase, since the May 1966 Plenum of the CPSU Central Committee. Large irrigated tracts have been created in the steppe oblasts, and enormous areas of wetlands have been drained in the low-lying, wooded and the western oblasts. Every fifth hectare of cultivated land is now irrigated in Kherson and Crimean oblasts, for example, and 23-43 percent of all the arable land in Lvov, Transcarpathian, Rovno and Zhitomir oblasts. Grain production on irrigated and drained land was 4.2-fold greater in 1983 than the level for the 8th Five-Year Plan, and feed production increased more than 3-fold....

We understand that the new phase of reclamation is making greater demands of party, soviet and agricultural agencies and the kolkhoz and sovkhoz workers. It is important to make the fullest use of all the best know-how we have accumulated.

As the most important condition for raising the yield from the fields, irrigated crop cultivation is constantly in the field of view of the Crimean Oblast party committee. Reports from rayon party committees, soviet and management agencies on the work being performed in this area are regularly heard at meetings of the bureau and the secretariat of the obkom. A proper return was not being received from the irrigated hectare on farms and Sovetskiy Rayon, for example. The bureau of the party obkom heard a report from the raykom and indicated failings and errors to its leaders. The obkom outlined measures to assist the rayon and set up effective control over their implementation. The results were soon evident. Yields grew by 15-20 percent there during the first 3 years of the five-year plan. The irrigated hectare in the oblast "does the work" of three or four non-irrigated hectares.

Unfortunately, not all of the republic's farms have yet acquired the achievements of those out front. The plenum of the Ukrainian Communist Party Central Committee therefore set great demands for party and soviet organs and the agro-industrial associations with respect to assuring the planned yield within the deadlines set on each kolkhoz and sovkhoz. Reclaimed land will not tolerate routine care. Incompetent use of this land can sometimes cause considerable damage. It may become swampy or saline, the soil structure may be disturbed, the topsoil may dry out, and there will be a much smaller harvest as a result. Reclamation, the fertilizing of the fields and observance of the requirements for agricultural practices and general good crop production must go hand in hand.

Not all of the party committees are actually taking this into account. The Nikolayev Oblast party committee and oblispolkom, for example, have adopted many good decisions on land reclamation matters. Due to inadequate party demandingness and control over their fulfillment, however, the results have been small. The harvest was one-fourth less than the projected yield during the first 3 years alone.

Increasing the responsibility of the cadres and holding them strictly accountable for the efficient use of reclaimed land must become an absolute law. We are speaking of relentlessly combatting defective work, raising the level of operation, strictly observing technological discipline and most importantly, taking a comprehensive approach to the new land. Take planning, for example. This is precisely where many of the problems sometimes originate, which then

cause trouble during the development of the reclaimed land. The irrigation system has been set up, let us say, but the construction of housing, production units, social and cultural facilities have not even been started. Why has this occurred? It turns out that they have not been properly specified in the plans themselves, but are only recommended.

The quality of the work is frequently poor. An inspection made by the republic's State Committee for Construction Affairs revealed major deviations with 50 significant defects at 16 of the 22 projects being built by the Zaporozh'yevodstroy Trust. This was due to the fact that the technical supervision service of the directorate for the construction of melioration systems in Zaporozhye Oblast sometimes accepts that which is clearly defective. Unfortunately, such things are not always assessed from a standpoint of principle. The communists who work there and the people's controllers do not sound the alarm in such cases.

There are numerous problems with respect to the supply of materials and equipment for the farms. We cannot accept as normal a situation in which their requests for the Fregat sprinklers, heavy and swamp tractors, ditch diggers, graders, plows, rotary tillers and disc harrows are being satisfied by only 15-60 percent, and equipment and materials for repair and operating needs are not provided at all for a number of important items.

In order to obtain assured farm crop yields, we need to work even more extensively to perfect the structure of the planted areas and to master efficient crop rotation systems. Zones of guaranteed grain production, especially corn, are being created at accelerated rates in the irrigated arable zone. The creation of zones with guaranteed production of vegetables on irrigated and drained land will be completed for all practical purposes within the near future.

The power of the reclaimed hectare manifests itself most extensively where lack of personal responsibility for the land use has been eliminated. The mechanized groups operating under collective contract are an especially successful system for organizing the work in irrigated crop production. This progressive form of labor organization has still not become widespread, however, and a number of the republic's oblasts were justifiably criticized for this at the plenum of the CPSU Central Committee. And we are deriving the proper conclusions from this.

The realistic nature of the reclamation program outlined is not based only on the increased material possibilities, but is also determined to an enormous degree by the well-defined organizational and political work performed in the masses. It must be improved in every possible way. We have set up a system for training specialists and cadres in the mass occupations for water management construction and crop production on reclaimed land. Additional departments have been set up at agricultural VUZ's, and the system of tekhnikums, vocational and technical schools and training combines has been expanded.

It is planned to allocate considerably more capital for investment in land reclamation in the republic under the 12th Five-Year Plan than under the current one. Successful implementation of the Long-Range Land Reclamation Program will make it possible to obtain a guaranteed one-third of the output from crop cultivation from this land.

For purposes of covering the water shortage, providing an uninterrupted supply of water for the population and the national economy, and further developing irrigation in the republic, a system of measures is being carried out to improve the use of existing water resources. Construction of the second section of the Dnepr-Donbass Canal and the waterline to Kharkov is underway. Preparatory work has already been started for the construction of the Dnepr-Bug water engineering system during the period 1985-1995. It will make it possible to increase the republic's water resources by 8 billion cubic meters and to irrigate an additional 1.35 million hectares of arid land. It is planned to build the first section of the Dunay-Dnepr Canal during the period 1990-2000.

We have extensive prospects and a precisely defined program of action. The republic party organization sees its main task as one of getting the enormous funds invested in land reclamation by the state to pay for themselves as rapidly as possible, as required by decisions coming out of the October Plenum of the CPSU Central Committee.

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## WATER RESOURCES AND LAND MANAGEMENT

### DEFECTS, NEGLIGENT USE OF IRRIGATION EQUIPMENT AIRED

Kiev PRAVDA UKRAINY in Russian 5 Jan 85 p 2

[Article by V. Filonenko, chairman of the State Committee for the Supply of Production Equipment for Agriculture UkSSR: "The Technical Base for Reclamation--Decisions of the October Plenum of the CPSU Central Committee--To Life"]

[Text] Questions having to do with increasing the fertility of the soil have always been at the center of attention in our party's agrarian policy. The October 1984 Plenum of the CPSU Central Committee, which passed the decree, "On the Long-Range Program for Reclamation and for Enhancing Effectiveness in the Use of Reclaimed Land for Purposes of Steadily Building Up the Nation's Food Supply," was new confirmation of this.

Irrigated and drained lands are considered to be areas with a guaranteed yield. This is so, but only with the precise interaction of builders, reclamation workers, chemists, the collectives of industrial enterprises and Sel'khoztekhnika [State Committee for Agricultural Equipment], and all of the users.

The reclamation branch has a high technical level. There are more than 33,000 sprinkler machines and units alone on the republic's farms. Furthermore, the sprinkler pool has been renewed to a large degree during the past 5 years, and such highly productive machines as the Fregat, Volzhanka, Dnepr and others have been added.

It is not just the quantity which is important, however, but also the reliability of all this equipment. The soil can be worked in good time, the crop planted well and the plants protected against weeds and pests, but if the sprinkler breaks down and the field receives no moisture, all of the efforts may prove to have been in vain.

The Sel'khoztekhnika subdivisions are charged with the repair, adjustment and technical servicing of all the sprinkler equipment (except for the Fregat and Kuban' machines). This is an enormous and extraordinarily important task. We are not starting with nothing, however. The republic's first experimental shop for the repair of sprinklers was set up more than 10 years ago in the Azov division of Sel'khoztekhnika in the Crimea. It soon grew into a specialized enterprise. The same sort of enterprise began operating in the Dzhankovskiy Rayon Sel'khoztekhnika. The specialists also assumed the job of monitoring the performance of the renovated machinery right in the field.

The State Committee for the Supply of Production Equipment for Agriculture UkSSR now has an entire network of oblast and inter-oblast specialized repair enterprises. They have the capacity to repair more than 3,000 sprinklers, over 4,000 pumps, 2,000 gearboxes for the DDA-100MA sprinkler systems and 1500 pump power units and pumps for them annually. Capacities have also been built for repairing the Druzhba engines and the Sigma-50 sprinkler units. There are specialized enterprises for manufacturing and repairing excavators, scoops and bulldozers. Facilities for rebuilding a broad range of parts for the machines and the manufacture of new ones have been set up in almost all the oblasts, including parts for the irrigation and reclamation equipment. Capacities for the adjustment, repair and technical servicing of sprinklers are being especially successfully expanded in Donetsk, Dnepropetrovsk and Kherson oblasts. Mobile repair brigades and exchange points for spare assemblies and units have operated there for many years.

In Nikolayev and Zaporozhye oblasts, which have an adequately large pool of sprinkler equipment, however, the situation with respect to its repair and servicing is being improved slowly.

The A-41 and D-86 engines for sprinkler equipment are rebuilt at the Simferopol Machine Repair Plant. This is essentially the only enterprise in the republic which specializes in this work. The plant has gained a bad name in recent years, however. It has been criticized for the poor repair work also in PRAVDA UKRAINY. Ukrremtrest [Machine Repair Trust UkSSR?] has been very timid in taking steps to improve the plant's performance. The committee board has had to make a serious effort to straighten out the management of both the trust and the plant. Effective assistance has been provided for outfitting the enterprise with the latest equipment, and technological and production discipline has been strengthened. The collective now rebuilds up to 3,500 motors annually. We hope that all of this will have a positive effect on the end results of the plant's work.

In November 1984 the collective considered a long-range plan for developing the repair and servicing base for irrigation and reclamation equipment. The irrigation machinery is presently being inventoried at the sites, and the repair enterprises are being certified. The writing off of sprinkler machines and assemblies has been taken under strict control. An additional training base is being set up for training irrigation specialists.

All of this is only a part of our common, great concern with strengthening the materials and equipment base for irrigated agriculture. Experience has shown that the handling of the irrigation equipment must be fundamentally altered. For some reason, many people consider it to be of secondary importance, "no one's responsibility," as it were, concern themselves little with its proper operation and store it haphazardly, forgetting that modern sprinklers are complex mechanisms.

Space is still frequently not found for these machines and units either in the machine yards or in the registers. Frequently, no one is placed permanently in charge of them.

It also sometimes happens that just prior to irrigation, it is suddenly discovered that the Druzhba engines, starters, cables, ropes and various kinds of

switches have been removed even from the new Volzhanka and Dnepr or the Sigma-50 sprinklers, and many of the aluminum tubes have simply disappeared. Although these parts are not very expensive, they are lost by the thousands, so that no supply quotas can cover the losses. In the final analysis, million of rubles are lost. And the strangest thing is that it is difficult to find the culprits.

The farms also make serious and justified complaints about the quality of the sprinklers they receive. The DDN-70 and DDA-100A units make up half of the pool and constitute the main irrigation equipment on most of the farms. If the machines actually operate like fountains, however, releasing a deluge and not a sprinkle of small drops, the soil cannot absorb the moisture, and the flood washes away the topsoil and thins out the crops. This frequently causes erosion. Nor are the crop growers completely satisfied with the Dnepr machine, which, in addition to everything else, cannot be used at night because it has no lights.

The "Kherson Combine Plant" Production Association should improve the welded joints of the pipes and the hooks on the connecting elements, and improve the design of the seal on the pump shaft of the DF-120 Dnepr and DDA-100 MA sprinklers.

Or take the following matter. According to the norms, the Dnepr sprinkler should have a service life of 8 years, the Fregat 10. They do not serve even half that long, however, and do not pay for the amount spent to acquire them.

We shall not enumerate all of the structural defects in the sprinklers and the mobile pumping units. They are known to engineers at the Machine Building Plant imeni 25th Anniversary of October (Nikolayev Oblast), the Diesel Plant imeni S.M Kirov (Tokmak, Zaporozhye Oblasts) and other enterprises. One thing is clear: We need to work more vigorously to perfect the designs of these machines.

And now, a brief word about rice cultivation equipment. Such operations as the leveling and flooding of the paddies, regulation of the water level, the loading of the planters with seed and fertilizer... have still not been mechanized.

There is no equipment at all for laying out the paddies in saline soil. The small size of the paddies and the fact that their surface has to be so level mean that reversible plows have to be developed for the main cultivation operations. A mounted, broad-sweep assembly with a fold-up frame is also essential for the subsoiling. To find a way out of the situation, we have been forced to make various tools and attachments for the series-produced machines locally, and this uses up metal designated for repair and operating needs.

The operators have important complaints about the ZhNU-4.0 rice harvester manufactured by the Pervomayskiy Agricultural Machinery Plant in Berdyansk, Zaporozhye Oblast. Many things about it do not measure up to modern demands. We must accelerate production of the new ZhRS-5 self-propelled, opposed-flowline harvester, which operates well on rough terrain. It has been successfully tested and has earned good comments.

And now, a few words about the immersible electric pumps. We know what these units are designed for. They supply water from deep levels. This equipment is therefore very important in those areas in which there are no state irrigation

systems or natural water resources (lakes, rivers or ponds). They are also irreplaceable for livestock farming and for municipal needs. The need for such pumps is being poorly met, however. We are seeking a solution. A repair base for the rebuilding of pumps which have broken down has been set up within the Sel'khoztekhnika system and with the reclamation workers. The production of these units is being mastered at an electromechanical plant in Kherson. Experimental models have already been recieved, and large-scale production will be organized in 1985. This will help to solve yet another acute problem.

In short, both we and our partners in the agroindustrial complex have a great deal of work to do. Only through joint efforts can we successfully fulfill decisions coming out of the October 1984 Plenum of the CPSU Central Committee and the assignment specified in the Food Program for the further intensification of agriculture.

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14 May 1985

## WATER RESOURCES AND LAND MANAGEMENT

## FOLLOW-UP COMMENTARY ON RECLAMATION ARTICLE

Kiev PRAVDA UKRAINY in Russian 5 Feb 85 p 2

[Follow-up commentary on article: "The Technical Base for Reclamation: They Respond to PRAVDA UKRAINY." Responses by A. Khortenko, general director of the Kherson Combine Plant imeni G. I. Petrovskiy Production Association and V. Vorob'yev, chief engineer for harvesters in the Berdyanskiy Production Association]

[Text] The article published on 5 January correctly points out individual shortcomings in the sprinklers produced by our association, specifically the DDA-100MA and the DF-120. The newspaper article was discussed by association specialists. A program of measures for raising the technical level and improving quality in the manufacture of sprinkler equipment has been worked out and is being implemented.

It is planned to begin producing the DDA-100MA-1 unit with a frame cab (which will be mounted on a DT-75ML tractor) this year. Working conditions for the reclamation workers will be considerably better on this unit. The testing of a version of the unit which irrigates with a sprinkling of small droplets and has an increased capacity will be continued.

We have now begun thoroughly modernizing the DF-120 sprinkler. Our main efforts are focused on further improving its operational features and reducing the specific metal consumption in the unit.

Our association fully supports the task of drastically improving the technical maintenance, the operation and storage of the sprinkler equipment and achieving a fundamental change in the handling of it, which was brought out in the article, and considers it to be an urgent one. Therein lie numerous reserves for enhancing the reliability and the life of the machinery. There are numerous examples of this. On the Kolkhoz imeni Kirov in Voznesenskiy Rayon, Nikolayev Oblast, on the L'vovskiy Sovkhoz and the Kolkhoz imeni Kirov in Belozerskiy Rayon, Kherson Oblast, and a number of other farms, the DF-120 sprinklers have operated for 8 or more years as a result of their proper use. Furthermore, they are used not only during the day, but also at night, since the units are equipped with lights.

The complaints about the ZhNU-4.0 harvester described in the article, "The Technical Rear for Reclamation," are justified. The ZhNU-4.0 rice harvester has



been taken out of production as obsolete by order of the minister of tractor and agricultural machine building of the USSR.

We will be producing the ZhRK-5 opposed-flowline rice harvester, which is coupled with a combine, to replace it. The Kzylordarismash plant will begin producing these harvesters this year. In order to accelerate their production, some of the harvesters will be manufactured by our association. We are to turn out 1700 of the ZhRK-5 harvesters this year.

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